



METROPOLITAN TRANSPORTATION COMMISSION  
SERVICE AUTHORITY FOR FREEWAYS AND EXPRESSWAYS

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*Alameda County*

August 2, 2010

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*Executive Director*

ANDREW B. FREMIER  
*Deputy Executive Director*

## INVITATION FOR BID

### Letter of Invitation For Detection Fitness Program

Dear Contractor:

The Metropolitan Transportation Commission Service Authority for Freeways and Expressways (MTC SAFE) invites your firm to respond to this Invitation for Bid (IFB) for:

#### Detection Fitness Program

Caltrans operates and maintains various Intelligent Transportation Systems (ITS) field devices as part of its Traffic Operations System (TOS). MTC SAFE developed the TOS Equipment Management System (TEMS) so that Caltrans can manage this equipment throughout its lifecycle. Now that TEMS is deployed, its data needs to be field verified for accuracy.

The Detection Fitness Program is a joint project between MTC SAFE and Caltrans. MTC SAFE invites your firm to submit a bid to conduct field-verifications of traffic monitoring stations in order to validate, correct, and update data in the TEMS database and correct minor problems to make the location operational. The objective of the Detection Fitness Program is to verify and improve the quality of data generated from existing roadway sensors so that the traffic data can be archived and used for traffic management purposes. The inspections will take place at a minimum of 200 freeway cabinet locations, and may take place up to 1,500 freeway cabinet locations (contingent upon additional funding).

This letter together with its attachments comprises the Invitation For Bid (IFB) for this project. Responses to the IFB should be submitted in accordance with the instructions stated herein.

#### **Bid Submission**

Interested bidders must submit their bids by 12:00 p.m., Friday, August 27, 2010. All bids must be sealed and labeled "Detection Fitness Program". ***Bids received after that date and time will not be considered.*** Bids shall be considered firm offers to provide the services described for a period of one hundred and fifty (150) days from the date of submittal.

### **MTC SAFE Point of Contact**

Bids should be submitted to the Contract Specialist at the address shown below. All inquiries related to this IFB should be submitted via email to <ccarrillo@mtc.ca.gov>.

Christine Carrillo, Contract Specialist  
Metropolitan Transportation Commission SAFE  
Joseph P. Bort MetroCenter  
101 Eighth Street, 3<sup>rd</sup> Floor  
Oakland, CA 94607-4700  
(510)817-5784

### **Minimum Qualification**

To be considered for this project, bidders must demonstrate the following minimum qualifications:

1. The bidder must have an office in the Bay Area.
2. The bidder must have at least three (3) years of experience working with Traffic Operations System (TOS) hardware, servicing TOS cabinets and the equipment within them, of which two (2) years must be experience installing, repairing and working with freeway loops and traffic detectors.
3. The bidder must possess a valid C-10 Electrical license (see <http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/C10Electrical.asp>)
4. The bid must specify a lead technician (with minimum qualifications given below) who will be responsible for communicating issues with MTC SAFE, its representative or the Project Engineer, as well as provide at least six (6) additional individuals with the following minimum qualifications that will be assigned to this contract:
  - a. Possess a valid California Driver's License;
  - b. Have knowledge of, and experience working with laptop and desktop computers, Microsoft Office and databases;
  - c. Understand use of detection and loop electronics equipment (including but not limited to Voltmeter, Loop Tester-Inductive Loop Analyzer ILA550, GPS, Memory Device to store information/photo, Tone Generator & Tracer, etc.);
  - d. Have logical approach to troubleshooting and problem solving; and
  - e. Have a basic understanding of data communications.

The Contractor shall provide resumes of technicians upon request by MTC SAFE. Resumes shall be structured in such a manner as to allow MTC SAFE to readily ascertain if the staff meets the qualifications for the work for which he/she is being proposed. The Contractor shall ensure that the employees' possess the necessary knowledge, skills and abilities to perform the tasks assigned.

### **Bidders Conference**

The bidders' conference will be held at 10:00 am on Tuesday, August 10, 2010, in the Joseph P. Bort Metro Center Building, 101 8th Street, 1<sup>st</sup> Floor, Oakland, in the Auditorium.

### **Disadvantaged Business Enterprise Participation**

MTC SAFE has established an Underutilized Disadvantaged Business Enterprise (UDBE) contract goal of 4% for contracts entered into as a result of this IFB. Respondents are required to document their activities in the solicitation and selection of subcontractors on *Appendices H-3, H-4, and H-5*, the Local Agency Proposer UDBE Information (Contractor Contracts), Local Agency Proposer UDBE Information (Contractor Contracts), and DBE Information-Good Faith Efforts respectively. A report on the Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontracts must be included with all invoices. MTC SAFE may withhold payment pending receipt of such report. For the complete DBE participation provisions applicable to this procurement, see *Appendix H* and *Appendix H-5* of the IFB.

### **Scope of Work and Schedule**

A preliminary Scope of Work is provided in *Appendix A* of this IFB. The TEMS Database Field Procedures (*Appendix A-1*) along with the Cabinet Locations including Hours of Operation of Active Ramp Meters (*Appendix A-1, Attachment D*) are also attached.

The contract resulting from this IFB will begin on October 1, 2010, and may continue through February 28, 2011. The contract completion date may be extended, at MTC SAFE's sole discretion up to two for additional one year periods. The contract resulting from this IFB for tasks listed in *Appendix A, Section I*, shall be a fixed-price contract. Payment to the selected Contractor shall be made monthly based on the numbers of verified locations completed (inspected, and updated on the TEMS database).

Any task orders resulting from Section II, Special Projects of *Appendix A, Scope of Work*, will be compensated on a deliverables or time and materials basis to be determined at MTC SAFE's sole discretion.

### **Notice of Addenda and Requests for Exceptions**

Any addenda to this IFB that may be issued by MTC SAFE will be posted at <http://www.mtc.ca.gov/jobs/>; it is the bidder's responsibility to check for addenda to this IFB and comply with new or revised requirements that may be stated therein.

**Requests for clarification or exception to IFB provisions must be received no later than, 12:00 noon on August 12, 2010, to guarantee consideration.**

### **Contractor Selection**

Bids will be initially evaluated for responsiveness and adherence to minimum qualifications. In order to ensure superior service, references will be checked, and bidders may be required to provide additional information verifying their experience.

A contract will be awarded to the responsible bidder submitting the lowest cost responsive bid as indicated in the "Bid Price" space in *Appendix B, Bid Form*. The lowest responsive bidder will be required to provide certification of insurance within five (5) business days of notice of award. If the lowest responsive bidder can not provide the required insurance to MTC SAFE within five (5) business day's of notice of award, MTC SAFE at its sole option may deem that bidder unresponsive and move the award to the next lowest responsive responsible bidder.

### **Contractor Selection Timetable**

10:00 A.M., Tuesday, August 10, 2010	Bidders' Conference, in the Joseph P. Bort Metro Center Building, 101 8th Street, 1 <sup>st</sup> Floor, Oakland, in the Auditorium.
12:00 P.M, Thursday, August 12, 2010	Closing date and time for requests for clarifications/exceptions
12:00 P.M. Friday, August 20, 2010	Deadline for protest of IFB provisions
12:00 P.M., Friday, August 27, 2010	Closing date and time for receipt of Bids
Friday, September 10, 2010	MTC Operations Committee Authorization
Friday, October 1, 2010 (approximate)	Issuance of Purchase Order

### **General Conditions**

MTC SAFE reserves the right to accept or reject any or all bids submitted, waive minor irregularities in proposals, request additional information or revisions to offers, and to negotiate with any or all bidders.

A signed MTC SAFE Purchase Order (PO) contract mailed or delivered to a particular bidder shall constitute a binding contract, which incorporates this IFB and its addenda, if any, and all documents referenced herein, any deviations from the specifications expressly accepted by MTC SAFE, and all terms and conditions of the PO. General Conditions of the MTC SAFE PO are included in this IFB as *Appendix G, G-1 and G-2*.

If a bidder wishes to propose a change to any provision of this IFB, the provision and the proposed alternative language must be submitted prior to the deadline listed above. If no such change is requested, the Contractor will be deemed to accept MTC SAFE's PO Terms and Conditions including insurance requirements.

The selected Contractor will be required to maintain insurance coverage, during the term of the contract, at the levels described in *Appendix G-1*. Contractor agrees to provide the required certificates of insurance providing verification of the minimum insurance requirements listed in

*Appendix G-1, Insurance Requirements*, within five (5) days of MTC SAFE's notice to firm that it is the successful bidder. Requests to change MTC SAFE's insurance requirements should be submitted on or prior to the closing date for receipt of requests for clarifications/exceptions listed above. MTC SAFE will review the requests and issue an addendum if material changes requested by a prospective bidder are acceptable. Objections to MTC SAFE determinations on requests to change insurance requirements must be brought to MTC SAFE's attention no later than the date for protesting IFB provisions. If such objections are not brought to MTC SAFE's attention consistent with the protest provisions of this IFB, compliance with all material insurance requirements will be assumed.

As this project is funded, in part, with federal funds and funds from Caltrans, the resulting contract will be subject to the federally required provisions included in *Appendix G-2 - Additional Purchase Order Terms and Conditions*, and *Appendix H - Department of Transportation Requirements*.

**Authority to Commit MTC SAFE**

The Executive Director of MTC SAFE will recommend the lowest responsive, responsible bidder to the MTC Operations Committee, which will commit MTC SAFE to the expenditure of funds in connection with this IFB.

Thank you for your participation.

Sincerely,

Ann Flemer  
Deputy Executive Director, Policy

AF:ro

**INVITATION FOR BID**

**by**

**METROPOLITAN TRANSPORTATION COMMISSION SERVICE AUTHORITY FOR  
FREEWAY AND EXPRESSWAYS**

**for**

**DETECTION FITNESS PROGRAM**

**August 2, 2010**

Joseph P. Bort MetroCenter  
101 Eighth Street  
Oakland, CA 94607-4700

## **I. INSTRUCTIONS TO BIDDERS AND BIDDING REQUIREMENTS**

### **A. Directions**

The provisions set forth below specify the standards by which bids will be received and considered by MTC SAFE. Bids not complying with these provisions may be considered non-responsive by MTC SAFE.

In order to be considered, your bid package shall include the completed forms listed below. Bidders who do not complete all appendices and include in their bid package risk being found non-responsive.

- *Appendix B, Bid Form*
- *Appendix C, Reference Form*
- *Appendix D, Key Personnel Assignments*
- *Appendix E, Subcontractor List*
- *Appendix F, California Levine Act Statement*
- *Appendix G, Insurance Requirements*
- *Appendix H-1, Certification Regarding Debarment, Suspension, And Other Responsibility Matters*
- *Appendix H-2, Certification of Restriction on Lobbying*
- *Appendix H-3, Local Agency Proposer/Bidder DBE Information (Contractor Contracts)*
- *Appendix H-4, Local Agency Proposer UDBE Commitment (Contractor Contracts)*
- *Appendix H-5, UDBE Information – Good Faith Efforts*

### **B. Definitions**

1. MTC SAFE: Metropolitan Transportation Commission Service Authority for Freeway and Expressways
2. Bidder: An individual, firm, partnership, corporation, or combination thereof, submitting a bid.
3. Contractor: The Bidder to whom a purchase order or contract is mailed or otherwise offered.
4. Project Engineer: MTC SAFE's on-site representative with authority to give technical direction. The Project Engineer will be a Caltrans Employee.
5. Bid: The forms included in this IFB become a bid when completed properly by a Bidder and submitted to MTC SAFE.
6. Contract: A signed MTC SAFE Purchase Order (PO) Contract mailed or delivered to a particular bidder, shall constitute a binding contract, which incorporates this IFB, and its

addenda, if any, all documents referenced herein, any deviations from the specifications expressed and accepted by MTC SAFE, and all terms and conditions of the PO Contract.

7. Non-Commute Hours: Between 9AM and 3PM on weekdays.
8. Completed and Acceptable Work: The work for a location will be considered complete only when all aspects of the “TEMS Database Field Procedures” are completed correctly and the cabinet location has been accepted by the Project Engineer.
9. Traffic Operations System (TOS): Infrastructure including, Changeable Message Signs (CMS), Closed Circuit Television (CCTV), Extinguishable Message Signs (EMS), Highway Advisory Radio (HAR), Traffic Monitoring Stations, etc.

### **C. Preparation of Bid**

#### **1. General**

All prices and quotations shall be written legibly by computer printer, typewriter or pen and ink. No erasures shall be made. Errors may be crossed out and corrected by typewriter or pen and ink adjacent to the item crossed out. Each correction shall be initialed in ink by the person signing the bid.

#### **2. Bid Price**

The bid price shall include all costs of labor, materials, equipment, tools, machinery, utilities, transportation, license or permit fees, overhead, and profit and all other services necessary for proper execution and completion of the work.

#### **3. Taxes**

The total bid price shall include full compensation for all applicable federal, state, and local taxes, as may be appropriate.

#### **4. Irregular Bids**

Bids may be rejected if they show such irregularities as: any alteration of form, additions not called for, conditional bids, incomplete bids, indefinite or ambiguous bids, obviously unrealistic or unbalanced prices, or a signature by other than an authorized person.

#### **5. Conditional Bids**

No condition included in a bid shall be binding upon MTC SAFE if in conflict with, inconsistent with, or in addition to the terms and conditions of this IFB, unless expressly accepted in writing by MTC SAFE.

#### **6. Addenda and Interpretations**

Any addenda to this IFB that may be issued by MTC SAFE will be posted at <http://www.mtc.ca.gov/jobs/>; it is the bidder's responsibility to check for addenda to this IFB and comply with new or revised requirements that may be stated therein.

MTC SAFE will not be responsible for any oral interpretation of the meaning of the requirements or specifications in this IFB. Every request for such interpretation shall be in



writing addressed to: Attention: Christine Carrillo MTC SAFE 101 - 8th Street, Oakland, CA 94607-4700. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be posted to the MTC website at: <http://www.mtc.ca.gov/jobs/contracts/>. All addenda so issued shall become part of the Contract Documents.

**7. Deviations**

MTC SAFE reserves the right to permit deviations from the specifications if an article offered is deemed by MTC SAFE to be of as good quality and as satisfactory for its intended use as an article fully meeting specifications. Unless exceptions are noted by Bidder, the article offered will be assumed to be in accordance with specifications indicated.

**8. Examination of Plans, Specifications and Sites**

The Bidder shall satisfy him/herself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a bid shall be prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans and specifications.

**9. Submission**

Only bids submitted on the furnished bid form in *Appendix B* will be considered. Bids received after the date and time indicated for receipt of bids will not be considered. Bidders will be solely responsible for the delivery of the bid to MTC SAFE by the time, on the date, and at the location indicated for receipt of bids.

**10. Withdrawal Before Bid Opening**

No bids may be modified; however, a bid may be withdrawn by written request, signed by the individual who signed the bid or his authorized representative, and received by MTC SAFE prior to the time indicated for receipt of bid.

**11. Protest of Specifications**

Prospective bidders may submit written protests of IFB specific specifications on the grounds that the specifications are biased, unduly restrictive, discourage competition, or do not comply with state or local law or regulation by the deadline specified in the letter of invitation. Such protests will be reviewed by MTC SAFE and responded to prior to bid opening. If appropriate, the time of bid opening will be extended to accommodate any changes in the IFB.

**12. Relief of Bidder after Bid Opening**

Unless MTC SAFE in its sole discretion elects otherwise, a Bidder shall not be relieved of his bid nor shall any change be made in his bid because of mistake. If a Bidder requests relief and MTC SAFE agrees to consider such request, it will be such Bidder's responsibility to establish that:

- (a) A mistake was made;
- (b) The Bidder gave MTC SAFE written notice of the mistake within five days after the opening of bids, specifying in detail how the mistake occurred;
- (c) The mistake made the bid materially different than the Bidder intended it to be; and

- (d) The mistake was made in filling out the bid and was not due to error in judgment or to carelessness in reading the IFB or referenced documents.

## **D. Award of Contract**

### **1. Bid Opening**

Bids will be opened publicly and publicly announced at MTC SAFE's offices, at the address, on the date, and at the hour indicated herein for the receipt of bids. Bidders are invited (not required) to be present.

### **2. Duration of Offer**

A signed bid is deemed to be an offer to enter into a contract for services bid and is firm for the period of time stated in the Letter of Invitation, unless extended by the bidder.

### **3. Discretion of MTC SAFE**

MTC SAFE reserves the right to reject any and all bids and to waive informalities and minor irregularities in bids received, other provisions herein notwithstanding.

### **4. Selection of Contractor**

The award, if an award is made, will be to the responsive, responsible Bidder, whose "Typical Month Bid Price" in *Appendix B, Bid Form*, conforming in all material respects to the terms and conditions of this IFB, is the lowest in price for the work requested.

### **5. One Bid**

If MTC SAFE receives only one bid and that bid is made on terms differing from those set forth herein, MTC SAFE may, at its discretion, accept such terms as responsive.

### **6. Selection Disputes**

A bidder may protest the selection of a Contractor on the grounds that MTC SAFE procedures, the provisions of this IFB, or applicable provisions of state or local law have been violated or inaccurately and/or inappropriately applied by submitting to the Project Manager a written explanation of the basis for protest no later than 4:00 p.m. on the third working day after the date on which the contract is authorized by MTC Operations Committee or the date the firm is notified that it was not selected, whichever is later, for objections to consultant selection.

Protests must clearly and specifically describe the basis for the protest in sufficient detail for the MTC SAFE review officer to recommend a resolution to the Executive Director. The Executive Director will respond to the protest in writing, based on the recommendation of a MTC SAFE review officer. Authorization to award a contract to a particular firm by the MTC SAFE Operations Committee shall be deemed conditional until the expiration of the protest period or, if a protest is filed, the issuance of a written response to the protest by the Executive Director.

Should the protesting bidder wish to appeal the decision of the Executive Director, it may file a written appeal with the MTC SAFE Operations Committee, no later than 4:00 p.m. on the third working day after receipt of written response from the Executive Director. The Operation Committee's decision will be the final agency decision.

MTC SAFE's decision to award a contract to a Contractor shall be conditioned upon the expiration of the protest period or if a protest is filed, the issuance of a written response to the protest by the Executive Director.

## **II. GENERAL CONDITIONS**

### **A. Independent Contractor**

Contractor is an independent contractor and not an employee or agent of MTC SAFE and has no authority to contract or enter into any other agreement in the name of MTC SAFE. Contractor has, and hereby retains, full control over the employment, direction, compensation and discharge of all persons employed by Contractor who are assisting in the performance of services under this Agreement. Contractor shall be fully responsible for all matters relating to the payment of its employees, including compliance with social security, withholding tax and all other laws and regulations governing such matters. Contractor shall be responsible for its own acts and those of its agents and employees during the term of this Agreement.

### **B. Changes to Purchase Order**

Any changes to the terms of the Purchase Order (PO) shall require a written amendment to the purchase order, signed by the MTC SAFE Executive Director or a designated representative and Contractor. No claim for additional compensation shall be recognized unless contained in a duly executed amendment.

### **C. Termination**

#### **1. Termination for Convenience**

MTC SAFE may, by written notice stating the extent and effective date, terminate its contract with the Contractor for convenience in whole or in part, at any time. MTC SAFE shall pay the Contractor as full compensation for performance until such termination, the amount due for verified completed locations and reasonable termination costs. In no event shall MTC SAFE be liable for any loss of profits on the portion of the contract so terminated.

#### **2. Termination for Default**

If Contractor becomes insolvent, assigns or subcontracts the work without MTC SAFE approval, does not deliver the work specified in the Contract or fails to perform in the manner called for, or fails to comply with any other material provision of the Contract, MTC SAFE may terminate the Contract for default. Termination shall be effected by serving a ten (10) day advance written notice of termination on Contractor, setting forth the manner in which Contractor is in default. If Contractor does not cure the breach or propose a plan and schedule for curing the breach acceptable to MTC SAFE within the ten (10) day period, the Contract shall be deemed terminated for default.

MTC SAFE shall pay the Contractor as full compensation for performance until such termination the amount which would be payable under the Contract, offset by any costs incurred by MTC SAFE to correct or complete work required under the Contract, including the difference between Contractor's price for the contract and any higher price paid to another Contractor retained to complete the work.

Should Contract be deemed terminated for default, Contractor may not submit a bid or a proposal on the same project that it defaulted on should MTC SAFE re-release the project.

If it is determined by MTC SAFE that Contractor's failure to perform resulted from unforeseeable causes beyond the control of Contractor, such as a strike, fire, flood, earthquake or other event that is not the fault of, or is beyond the control of Contractor, MTC SAFE, after setting up a new delivery or performance schedule, may allow Contractor to continue work, or treat the termination as a termination for convenience.

**D. Indemnity**

Contractor agrees to indemnify, and hold MTC SAFE, Caltrans, FHWA, their directors, commissioners, officers, employees and agents harmless from all claims, demands, suits, losses, damages, injury, and liability, (including any and all costs and expenses in connection therewith), incurred by reason of any negligent or otherwise wrongful act, or failure to act of Contractor, its officers, agents, employees and subcontractors or any of them, under or in connection with this IFB; Contractor agrees at its own cost expense and risk to defend any and all claims, demands, suits, or other legal proceedings brought or instituted against MTC SAFE, Caltrans, FHWA, their directors, commissioners, officers, agents, and employees, or any of them arising out of such acts or failure to act, and to pay and satisfy any resulting judgments.

**E. Assignment**

The Contractor shall not assign any right, duty or responsibility in this contract without the prior written consent of MTC SAFE thereto; provided however, that claims for money due or to become due to Contractor from MTC SAFE under this Contract may be assigned without such approval. Notice of any such assignment shall be furnished promptly to MTC SAFE, and any such assignment shall be subject to all authorized withholdings in favor of MTC SAFE.

**F. Choice of Law**

All questions pertaining to the validity and interpretation of this Agreement shall be determined in accordance with the laws of the State of California.

**G. Prohibited Intent**

No member, officer or employee of MTC SAFE during his/her tenure shall have any interest, direct or indirect, in the Contract or the proceeds thereof.

**H. Cooperation Between Contractors**

MTC SAFE reserves the right to contract for and perform other or additional work on or near the work covered by these specifications. When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. Contractors working on the same project shall cooperate with each other as directed. Each contractor involved shall assume all liability, financial or otherwise, in connection with his contract and shall protect and

save harmless MTC SAFE from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other contractors working within the limits of the same project.

### **III. SPECIAL CONDITIONS**

#### **A. Minimum Qualifications**

To be considered for this project, proposers must demonstrate the following minimum qualifications:

1. The bidder must have an office in the Bay Area.
2. Have at least three (3) years of experience working with Traffic Operations System (TOS) hardware, servicing TOS cabinets and the equipment within them, of which two (2) years must be experience installing, repairing and working with freeway loops and traffic detectors.
3. The bidder must possess a valid C-10 Electrical license (see <http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/C10Electrical.asp>)
4. Have a lead technician (with minimum qualifications given below) that will be responsible for communicating issues with MTC SAFE, its representative or the Project Engineer, as well as provide at least six (6) additional individuals with the following minimum qualifications that will be assigned to this contract:
  - a. Possess a valid California Driver's License;
  - b. Have knowledge of, and experience working with laptop and desktop computers, Microsoft Office and databases;
  - c. Understands use of detection and loop electronics equipment (including but not limited to Voltmeter, Loop Tester-Inductive Loop Analyzer ILA550, GPS, Memory Device to store information/photo, Tone Generator & Tracer, etc.);
  - d. Have logical approach to troubleshooting and problem solving; and
  - e. Have a basic understanding of data communications.

The Contractor shall provide resumes of technicians upon request by MTC SAFE. Resumes shall be structured in such a manner to allow MTC SAFE to readily ascertain if the staff meets the qualifications for the work for which he/she is being proposed. The Contractor shall ensure that the employees' possess the necessary knowledge, skills and abilities to perform the tasks assigned.

## **B. Period of Performance**

The contract resulting from this IFB will begin on October 1, 2010, and continue through February 28, 2011. The contract completion date may be extended, at MTC SAFE's sole discretion.

Contractor will be expected to complete about 30 cabinet locations per week using three teams of two (2) persons, with each team completing at least 2 cabinet locations per day. Contractor shall submit the completed cabinet locations to MTC SAFE Project Engineer bi-weekly.

## **C. Subcontractors**

Bidders may subcontract portions of the work to be performed with written approval of MTC SAFE. Bidders shall be held responsible for all work conducted through a subcontractor.

## **D. Inspection and Acceptance by MTC SAFE**

### **1. Inspection**

All performance, which includes services, materials, supplies and equipment furnished or utilized in the performance of this contract, and workmanship in the performance of services shall be subject to inspection and test by MTC SAFE or its designated inspector at all times during the term of the contract. The Contractor shall provide adequate cooperation to the Inspector assigned by MTC SAFE to permit the inspector to determine the Contractor's conformity with these specifications and the adequacy of the services being contractually provided.

### **2. Acceptance**

The Contractor shall enter data collected from field into the TEMS Database. The Contractor shall file all documents, photos (according to "TEMS DATABASE FIELD PROCEDURES") and inform MTC SAFE, its representative or Project Engineer in writing, any and all findings, irregularities and discrepancies on a bi-weekly basis.

The Project Engineer will conduct random inspections of cabinet locations inspected and listed on the bi-weekly report. The Project Engineer shall have up to 30 days to approve the Bi-weekly report. Once the Project Engineer approves the bi-weekly report, the work listed in the report will be deemed complete and acceptable. If a discrepancy is found, all or some cabinet locations on the bi-weekly report may need to be field verified by the lead technician at the sole discretion of the project engineer. The lead technician may also be required to accompany the Project Engineer on all or some of these visits.

In the event that Contractor fails to perform the services promptly or take necessary steps to ensure future performances of the service in conformity with the specifications and requirements of the contract, MTC SAFE shall have the right (1) to terminate these contract for default as provided above; and (2) to contract for or otherwise to have the services performed in conformity with the contract specifications and charge to the Contractor any cost occasioned to MTC SAFE that is directly related to the performance of such services.

#### **E. Notices**

All notices or other communications to either party by the other shall be deemed given when made in writing and delivered or mailed to such party at their respective addresses as follows:

To MTC SAFE: Attention: Raymond Odunlami, Project Manager  
MTC SAFE  
101 - 8th Street  
Oakland, CA 94607-4700  
Fax: 510.817-5799  
Email: rodunlami@mtc.ca.gov>

To Contractor: Attention: Persons signing Bid or other representative  
Address on Bid Form  
Address on Bid Form  
Fax number on Bid Form  
Email address on Bid Form

#### **F. Guaranty**

The Contractor guarantees that the services will be performed in a professional manner by qualified personnel. Upon receiving notification from MTC SAFE that a defect is detected, the Contractor shall repair or replace the work performed initially, without cost to MTC SAFE, and to MTC SAFE's satisfaction. The Contractor's guaranty excludes damage or defect caused by abuse by MTC SAFE or modifications not executed by the Contractor. The Contractor guarantees to arrive promptly at the date and time scheduled with the MTC SAFE Project Manager to perform the tasks as specified in *Appendix A-1, Scope of Work*.

#### **G. Scheduling**

Contractor shall not commence any work until a meeting between the Contractors and MTC SAFE's Project Manager is held. The meeting will be held at a time and date to be established by the MTC SAFE Project Manager. No work will be done unless authorized by the MTC SAFE Project Manager.

#### **H. Contract Arrangements**

MTC SAFE shall issue a Purchase Order (PO) to the successful Contractor that shall incorporate this IFB, the Contractor's bid, and all terms and conditions set forth in the PO. General Conditions of the MTC SAFE PO are included in this IFB as *Appendix G and Appendix G-1*.

The contract completion date may be extended, at MTC SAFE's sole discretion for additional one year periods. The contract resulting from this IFB for tasks listed in *Appendix A, Section I*, shall be a fixed-price contract. Payment to the selected Contractor shall be made monthly based on the numbers of verified locations completed (inspected, and updated on the TEMS database).

Any task orders resulting from Section II, of Appendix A-1 Scope of Work, will be compensated on a deliverables or time and materials basis; to be determined at MTC SAFE's sole discretion.

**I. Examination of Specifications and Sites**

Bidders shall satisfy themselves as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a bid shall be prima facie evidence that a Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans and specifications. Failure to do so will be at Bidders' own risk and they cannot secure relief on the plea of error.

**J. Unknown Obstructions**

Should any unknown obstruction be encountered during the course of this contract the Contractor shall immediately bring it to the attention of the MTC SAFE Project Manager. The Contractor shall be responsible for the protection of all employees, existing equipment, furniture, or utilities encountered within the work area.

**K. Cost Estimation**

It is the responsibility of the bidder to make all estimates (labor hours, materials, etc.) to determine his/her bid price to complete the work specified under this IFB. MTC SAFE shall not be held accountable for differences to the estimates provided in *Appendix A and A-1*.

**L. Supplies**

Contractor is to provide all necessary supplies and to include the costs of such supplies in its bid.

**M. Insurance**

The insurance requirements are listed in *Appendix G-1, Insurance Requirements* and Contractor must fully comply with the requirements listed therein.

**N. Injury Prevention**

As part of MTC SAFE's Injury Prevention Program (IPP) established pursuant to California Labor Code Section 6401.7, Contractor may be required to provide MTC SAFE with a description of Contractor's IPP and, specifically, of methods and procedures for identifying and using safe conditions and work practices at the worksite while performing specified work.



## **O. Disadvantaged Business Enterprise (DBE) Requirement**

Effective June 2, 2009, the California Department of Transportation (Caltrans) requires recipients of DOT grant funds through Caltrans to impose the following DBE utilization requirements on its Contractors and contractors. Contractor's DBE participation on this Agreement will assist Caltrans in meeting its federally mandated statewide overall DBE goal.

MTC SAFE has established an Underutilized Disadvantaged Business Enterprise (UDBE) contract goal of 4% for this contract; the UDBE goal applies to all non-discretionary tasks. Respondents are required to document their activities in the solicitation and selection of subcontractors on *Appendices H-3, H-4, and H-5*, the Local Agency Proposer DBE Information (Contractor Contracts), Local Agency Proposer UDBE Information (Contractor Contracts), and UDBE Information-Good Faith Efforts respectively. A report on the Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontracts must be included with all invoices. MTC SAFE may withhold payment pending receipt of such report. For the complete DBE participation provisions applicable to this procurement, see *Appendix H*.

Appendices H-1, H-2, H-3, H-4, and H-5 are Caltrans-required forms. Proposers **must** complete Appendices H-1, H-2, H-3, H-4 and H-5 according to the instructions in their entirety. This applies even if a proposer is a UDBE/DBE.

### **1. TERMS AS USED IN THIS DOCUMENT:**

- The term "Disadvantaged Business Enterprise" or "DBE" means a for-profit small business concern owned and controlled by a socially and economically disadvantaged person(s) as defined in Title 49, Part 26.5, Code of Federal Regulations (CFR).
- The term "Underutilized Disadvantaged Business Enterprise" or "UDBE" is a firm meeting the definition of a DBE as specified in 49 CFR and is one of the following groups:
  - Black American
  - Asian-Pacific American
  - Native American
  - Women
  -
- The term "proposer" refers to firms submitting SOQs in response to this RFP; the term "proposal" means the SOQ.
- The term "Contract." also means Agreement.
- The term "Small Business" or "SB" is as defined in 49 CFR 26.65.

### **2. AUTHORITY AND RESPONSIBILITY**

- A. DBEs and other small businesses are strongly encouraged to participate in the performance of Agreements financed in whole or in part with federal funds (See 49 CFR 26, "Participation by Disadvantaged Business Enterprises in Department of

Transportation Financial Assistance Programs”). The Contractor should ensure that DBEs and other small businesses have the opportunity to participate in the performance of the work that is the subject of this solicitation and should take all necessary and reasonable steps for this assurance. The proposer shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts.

- B. Proposers are encouraged to use services offered by financial institutions owned and controlled by DBEs.

### **3. SUBMISSION OF UDBE AND DBE INFORMATION**

If there is a UDBE goal on the contract, a “Local Agency Bidder/Proposer-UDBE (Contractor Contract) Commitment” (Exhibit 10-O(1)) form shall be included in the Request for Proposal. In order for a proposer to be considered responsible and responsive, the proposer must make good faith efforts to meet the goal established for the contract. If the goal is not met, the proposer must document adequate good faith efforts. Only UDBE participation will be counted towards the contract goal; however, all DBE participation shall be collected and reported.

A “Local Agency Proposer/Bidder-DBE (Contractor Contract)-Information” (Exhibit 10-O(2)) form shall be included with the Request for Proposal. The purpose of the form is to collect data required under 49 CFR 26. For contracts with UDBE goals, this form collects DBE participation by DBEs owned by Hispanic American and Subcontinent Asian Americans. For contracts with no goals, this form collects information on all DBEs, including UDBEs. Even if no DBE participation will be reported, the successful bidder must execute and return the form.

### **4. DBE PARTICIPATION – GENERAL INFORMATION**

It is the proposer’s responsibility to be fully informed regarding the requirements of 49 CFR, Part 26, and the Department’s DBE program developed pursuant to the regulations. Particular attention is directed to the following:

- A. A DBE must be a small business firm defined pursuant to 13 CFR 121 and be certified through the California Unified Certification Program (CUCP).
- B. A certified DBE may participate as a prime contractor, subcontractor, joint venture partner, as a vendor of material or supplies, or as a trucking company.
- C. A UDBE proposer, not submitting as a joint venture with a non-DBE, will be required to document one or a combination of the following:
  - 1. The proposer is a UDBE and will meet the goal by performing work with its own forces.
  - 2. The proposer will meet the goal through work performed by UDBE subcontractors, suppliers or trucking companies.
  - 3. The proposer, prior to bidding, made adequate good faith efforts to meet the goal.

- D. A DBE joint venture partner must be responsible for specific contract items of work or clearly defined portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture commensurate with its ownership interest.
- E. A DBE must perform a commercially useful function pursuant to 49 CFR 26.55; that is, a DBE firm must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.
- F. The prime contractor shall list only one subcontractor for each portion of work as defined in its proposal and all DBE subcontractors should be listed in the list of subcontractors.
- G. A prime contractor who is a certified DBE is eligible to claim all of the work in the Agreement toward the DBE participation except that portion of the work to be performed by non-DBE subcontractors.

## 5. RESOURCES

- A. The CUCP database includes the certified DBEs from all certifying agencies participating in the CUCP. If you believe a firm is certified that cannot be located on the database, please contact the Caltrans Office of Certification toll free number 1-866-810-6346 for assistance. Proposer may call (916) 440-0539 for web or download assistance.
- B. Access the CUCP database from the Department of Transportation, Civil Rights, Business Enterprise Program website at: <http://www.dot.ca.gov/hq/bep/>.
  - Click on the link in the left menu titled Find a Certified Firm
  - Click on Query Form link, located in the first sentence
  - Click on Certified DBE's (UCP) located on the first line in the center of the page
  - Click on Click To Access DBE Query Form
  - Searches can be performed by one or more criteria
  - Follow instructions on the screen
  - "Start Search," "Civil Rights Home," and "Caltrans Home" links are located at the bottom of the query form
- C. How to Obtain a List of Certified DBEs without Internet Access

**DBE Directory:** If you do not have Internet access, Caltrans also publishes a directory of certified DBE firms extracted from the on-line database. A copy of the directory of certified DBEs may be ordered from the Caltrans Division of Procurement and

Contracts/Material and Distribution Branch/Publication Unit, 1900 Royal Oaks Drive,  
Sacramento, CA 95815, Telephone: (916) 445-3520.

**6. MATERIALS OR SUPPLIES PURCHASED FROM DBES COUNT TOWARDS DBE CREDIT, AND IF A DBE IS ALSO A UDBE, PURCHASES WILL COUNT TOWARDS THE UDBE GOAL UNDER THE FOLLOWING CONDITIONS:**

- A. If the materials or supplies are obtained from a DBE manufacturer, count one hundred percent of the cost of the materials or supplies. A DBE manufacturer is a firm that operates or maintains a factory, or establishment that produces on the premises, the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.
- B. If the materials or supplies purchased from a DBE regular dealer, count sixty percent of the cost of the materials or supplies. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.
- C. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not an ad hoc or Agreement-by -Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not UDBE regular dealers within the meaning of this section.
- D. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

## **APPENDIX A SCOPE OF WORK**

### **I. BASE CONTRACT**

#### **A. Work to be Done**

Contractor shall conduct field-verification inspections, rectification of minor problems, and inventories of various types of TOS equipment at a minimum of 200 freeway cabinets, and may take place at up to 1,500 freeway cabinets (contingent upon additional funding) located throughout the nine Bay Area counties in order to validate, correct and update data in the TEMS database. The information collected will be documented and delivered to the MTC SAFE Project Engineer or his/her designee on a bi-weekly basis.

At each cabinet location, the Contractor must follow the step by step procedures set out in “TEMS DATABASE FIELD PROCEDURES” (see *Appendix A-1*) which includes descriptions of how to complete the necessary TOS “Field Inventory Data” and “Input File Card Assignment” Forms.

The work for a cabinet location will be considered complete only when all aspects of the “TEMS DATABASE FIELD PROCEDURES” are completed correctly and the work has been accepted by MTC SAFE, its representative, or the Project Engineer.

#### **Example of Work:**

The Contractor will visit each cabinet location, verify the accuracy of the location and if necessary modify the Plans and Documents. The Contractor will also identify and rectify minor problems in order to make the cabinet location operational, as described in the field procedures. If it is unclear on how to address any minor problem, the Project Engineer should be consulted.

#### **Examples of minor problems are:**

1. Faulty or missing equipment such as Controller, Modem, Sensor card, C2 cable, Power Supply, Antenna, etc., is to be fixed or replaced and made operational. Any replacement equipment needed should be approved by the Project Engineer;
2. Incorrect or wrong parameters such as Drop, Configuration, Code, DLCs Termination, Off Breaker, etc. is to be fixed, rectified, corrected and made operational; and
3. Resetting the circuit breakers either in the controller cabinet, or the service cabinet.

All problems encountered and considered major or not minor need to be documented with an explanation of why it could not be fixed. This documentation should be attached to the Bi-Weekly Report.

It is important to note that the cabinet location sites are on the side of the freeway and will be spread out throughout the nine Bay Area counties (see *Appendix A-1* for Cabinet locations). In some cases several inspection sites could be closely spaced, along the same stretch of freeway, while in other cases the inspection sites could be scattered among non-adjacent counties (e.g.,

one may need to travel from Santa Clara County to Sonoma County for one group of inspections). Order of inspection will be coordinated with the Project Engineer.

**B. Acceptance of Work**

The Contractor shall enter data collected from field into the TEMS Database. The Contractor shall file all documents, photos (according to “TEMS DATABASE FIELD PROCEDURES”) and inform MTC SAFE, its representative or Project Engineer in writing, any and all findings, irregularities and discrepancies on a bi-weekly basis.

The Project Engineer will conduct random inspections of cabinet locations inspected and listed on the bi-weekly report. The Project Engineer shall have up to 30 days to approve the Bi-weekly report. Once the project Engineer approves the Bi-Weekly report the work listed in the report will be deemed complete and acceptable. If a discrepancy is found, all or some cabinet locations on the bi-weekly report may need to be field verified by the lead technician at the sole discretion of the project engineer. The lead technician may also be required to accompany the project engineer on all or some of these visits.

In the event that Contractor fails to perform the services promptly or take necessary steps to ensure future performances of the service in conformity with the specifications and requirements of the contract, MTC SAFE shall have the right: (1) to terminate these contract for default as provided above; and (2) to contract for or otherwise to have the services performed in conformity with the contract specifications and charge to the Contractor any cost occasioned to MTC SAFE that is directly related to the performance of such services.

**C. Materials and Workmanship**

The Contractor shall provide all vehicles, tools and test equipment necessary to complete tasks (such as Laptop with wireless network connection, Voltmeter, Loop Tester-Inductive Loop Analyzer ILA550, GPS, Digital Camera, Memory Device to store information/photo, Tone Generator & Tracer, Cellular Telephone, Pull-Box opener, Tool Box with Electrical/Mechanical hand tool set, Cabinet keys, Copy Machine, office supplies, and any other required tools or equipment), and personal protective equipment (such as Hard hat, Reflectorized Vest, Beacon, Cones, Eye protection, Gloves, Knee pads, etc.), that is equal or better than normal industry standards and at the same time complying with Cal/OSHA and Caltrans Safety Standards.

MTC SAFE through Caltrans shall supply the following spare parts: Controllers, sensor cards, C2 cables, Modems, Antennas and Modem's Power Supplies and bracket.

Conscientious attention to detail and ability to work safely on the side of the freeway adjacent to live traffic in travel lanes will be extremely important to the performance of the work.

**D. Period of Performance**

The contract resulting from this IFB will begin on October 1, 2010, and continue through February 28, 2011. The contract completion date may be extended, at MTC SAFE's sole discretion. However, it should be noted that the frequency of the inspection work during this time period cannot be determined, since the time when inspections can be conducted depend on traffic conditions and weather. It is therefore the responsibility of the Contractor to meet the requirements of the Contract. All loop and detector inspection work is to be conducted during

NON-COMMUTE hours. However, data entry work and other database work can be performed at any time.

**E. Plans and Specifications**

Contractor shall keep in the field, a copy of all plans and specifications of the sites being inspected, to which MTC SAFE, its representative or Project Engineer shall have access to at all times. Any additional related documentation shall also be kept by Contractor in the field office and be available for review by the MTC SAFE, its representative or Project Engineer.

**F. Rights of Entry and Permits**

Contractor shall be responsible for obtaining all rights of entry, encroachment permits and other licenses or permits required by partner agencies to perform the work hereunder at the cost of Contractor.

**G. Materials, Workmanship and Warranty**

All materials, parts and equipment furnished by Contractor shall be of high grade and free from defects. Replacement enclosures provided by Contractor shall not be of lesser quality as measured by paint brightness, and aluminum and/or coating integrity and shall be guaranteed by Contractor against corrosion and fading for the term of the of the PO contract resulting from this IFB. Contractor shall warrant all materials and parts provided or refurbished by Contractor for one (1) year from date of installation. Quality of work shall be in accordance with generally accepted standards and all work shall be subject to all warranty provisions. Materials and work quality shall be subject to the MTC SAFE Project Manager's or a designated representative's approval. Contractor shall be responsible for storing and maintaining materials in a manner that preserves their quality and fitness for future use.

**H. Labor**

Only competent workers meeting the minimum qualifications listed in this IFB shall be employed to perform tasks under this *Appendix A*. Any person found by MTC SAFE to be incompetent, disorderly, working under the influence of alcohol or controlled substances, unsafe or otherwise objectionable shall be removed by Contractor and not re-employed for services. Contractor shall be solely responsible for any and all services performed under the PO contract resulting from this IFB by its employees and/or subcontractors. Contractor shall enforce strict discipline and good order to ensure that all work is carried out promptly and with due diligence.

**I. Inspection**

All performance (including services, materials, supplies, and equipment furnished or utilized) shall be subject to inspection and approval by the Project Engineer. Any MTC SAFE authorized representative shall have access to the field office. Approval by the Project Engineer that services meet required performance measures shall precede payment, described in *Appendix A*, Article III, Compensation For Services.

**J. Correction of Defective Work**

The Project Engineer will conduct random inspections of cabinet locations inspected and listed on the bi-weekly report. The Project Engineer shall have up to 30 days to approve the Bi-weekly report. If a discrepancy is found, all or some cabinet locations on the bi-weekly report may need

to be field verified by the lead technician at the sole discretion of the project engineer. The lead technician may also be required to accompany the project engineer on all or some of these visits.

In the event that Contractor fails to perform the services promptly or take necessary steps to ensure future performance of the service in conformity with the specifications and requirements of the contract, MTC SAFE shall have the right either: (1) by contract or otherwise to have the services performed in conformity with the contract specifications and charge to the Contractor any cost occasioned to MTC SAFE that is directly related to the performance of such services; or (2) to terminate this contract for default as provided in Section II. C of the IFB.

## **II. Special Projects**

Contractor may be requested to conduct special projects during the term of the Agreement as it relates to the Detection Fitness Program. Special projects may include but are not limited to repair work and procurement of spare parts beyond the scope of this Agreement in unforeseeable events.

All tasks under this Section will be initiated through MTC SAFE issued Task Orders. The standard MTC SAFE task order is attached as *Appendix A-3, Standard MTC SAFE Task Order Procedures and Sample Task Order*.

## **III. Compensation for Services**

All tasks detailed in *Appendix A, Scope of Work* Section I performed by Contractor shall be compensated on a per cabinet basis at the rate listed in *Appendix B, Bid Form*, based on the number of cabinet locations completed. The specified flat rate is a firm fixed price, including all applicable surcharges such as taxes, insurance, and fringe benefits, as well as indirect costs, overhead and profit allowance. Work is considered completed when it satisfies the requirements of Completed and Acceptable Work as per Section III, Special Conditions, and Appendix A, Scope of Work, Section I, Base Contract, Subarticle B.

Any task orders resulting from Section II, of this *Appendix A, Scope of Work*, will be compensated on a deliverables or time and materials basis to be determined at MTC SAFE's sole discretion. A sample task order form is attached hereto as part of *Appendix A-3, Task Order Procedures and Sample Task Order*.

Contractor shall submit a monthly invoice and progress report to MTC SAFE as described below. The invoice shall identify by Task each cabinet location (including County), and the date inspected, the date the TEMS Database was updated, and the date each cabinet location was approved by Project Engineer (see sample invoice *Appendix A-2*). Invoices will be dated, numbered in serial order, and signed by Contractor. Invoices shall also be accompanied by Inspectors bi-weekly Report signed off by the Project Engineer. Invoices shall also identify the amount previously billed and paid under the contract, and the amount previously billed and paid under the task order.



MTC SAFE will pay up to 90% of the amount of each invoice no later than thirty (30) days after its receipt. The cumulative 10% of invoices will be paid upon satisfactory completion of the contract. All invoices shall be made in writing and delivered or mailed to MTC SAFE as follows:

Attention: Accounting Section  
Detection Fitness Program  
Metropolitan Transportation Commission  
Joseph P. Bort MetroCenter  
101 Eighth Street  
Oakland, CA 94607-4700

## **APPENDIX A-1**

TEMS DATABASE FILED PROCEDURES

(SEE SEPARATE ATTACHED DOCUMENT)

## APPENDIX A-2 SAMPLE INVOICE

**Invoice #: 01234567**

**Contract #: CO0123**

**Detection Fitness Program**

**December 1, 2011**

DETECTION FITNESS PROGRAM INVOICE										
#	County	Route	Direction	Post Mile	Cab. ID	Cabinet location Description	Date Inspected	Date TEMS Updated	Technicians name completed work	Date Approved by Project Engineer
1	Ala	580	W	14.98	DT311	Airway Blvd. rm-w-loop	11/2/2010	11/2/2010	Tech. Name 1 Tech. Name 2	11/12/2010
2	Ala	580	E	9.481	E33MJ	Vasco Road rm-e-diag.	11/2/2010	11/2/2010	Tech. Name 1 Tech. Name 2	11/12/2010
3	Ala	880	N	3.383	E33GC	Fremont Blvd. rm-n-loop	11/2/2010	11/2/2010	Tech. Name 1 Tech. Name 2	11/12/2010
4	Ala	880	S	0.04	E33GQ	Dixon Landing Road rm-s-loop	11/2/2010	11/2/2010	Tech. Name 1 Tech. Name 2	11/16/2010
5	SCI	85	S	6.102	E37CG	Almaden Expwy rm-s-diag.	11/2/2010	11/3/2010	Tech. Name 1 Tech. Name 2	11/16/2010
6	SCI	85	S	15.67	E37DP	De Anza Blvd. rm-s-diag.	11/2/2010	11/3/2010	Tech. Name 1 Tech. Name 2	11/16/2010
7	SCI	87	N	0.423	E37CC	Santa Teresa Blvd. n/b 85 to 87 rm-n-diag.	11/3/2010	11/3/2010	Tech. Name 1 Tech. Name 2	11/18/2010
8	SCI	87	N	5.675	E37ML	Park Ave. rm-n-diag.	11/3/2010	11/3/2010	Tech. Name 1 Tech. Name 2	11/18/2010
9										
10										
11										
12										
13										
14										
15										
Total Cabinet Location Completed & Approved:					8	Price Per Cabinet Location: \$_____	Total for November: \$			

### **APPENDIX A-3, TASK ORDER PROCEDURES AND SAMPLE TASK ORDER**

Task Orders will be numbered sequentially and by Fiscal Year (FY). For example, the first Task Order signed by the parties will be Task Order 1-10. Amendments will be numbered 1-10, 1.1-10, 2-10, etc. The period of performance shall be as set forth in the individual Task Order. The process for developing, signing and tracking task orders is summarized as follows:

Step 1 – The MTC SAFE Project Manager (PM), or designee, prepares a draft Task Order to issue to CONSULTANT. The PM may solicit feedback from CONSULTANT to facilitate drafting the Task Order.

Step 2 – CONSULTANT prepares a proposal in response to the draft Task Order. The proposal should follow the Task Order Form format specified herein *Appendix D*.

Step 3 – The MTC SAFE PM reviews CONSULTANT's proposal to determine if it meets the objectives of the draft Task Order and if CONSULTANT's proposed costs are reasonable. The PM may solicit early feedback from MTC SAFE senior management at this time, if necessary. Any changes to the draft Task Order deemed appropriate by MTC SAFE shall be incorporated in a draft Final Task Order.

Step 4 – The MTC SAFE PM forwards the draft Final Task Order to the MTC SAFE Contract Administrator for review and approval.

Step 5 – Once approved, the MTC SAFE PM forwards two copies of the Task Order to the MTC SAFE for review and approval.

Step 6 – The MTC Highway and Arterial Operations Director signs both copies of a Final Task Order to signify approval and returns them to the MTC SAFE PM.

Step 7 – The MTC SAFE PM sends both copies of the signed Final Task Order to CONSULTANT, who signs both copies and returns one to the MTC SAFE PM.

Step 8 – The MTC SAFE PM sends one copy of the fully executed Task Order to the MTC SAFE Task Lead who initiates work, and sends another copy to MTC SAFE Accounting to encumber funds against the Task Order. The MTC SAFE PM keeps the original fully-executed Task Order for the official project record.

Step 9 – The MTC SAFE PM is responsible for overseeing the successful conclusion of the Task Order, and will manage the progress of the work, track invoices against the Task Order budget, and track milestone completion against the Task Order schedule.

Step 10 – Once the MTC SAFE PM determines the Task Order is complete, the MTC SAFE PM will send written notification to CONSULTANT that the Task Order is complete and that all associated invoices are due to MTC within 30 days. Any balance of budget is made available to spend on future task orders at the MTC SAFE PM's discretion.

Step 11 – The MTC SAFE PM will annually assess the need for a Contract audit.

*\*The MTC SAFE Project Manager may revise the Task Order and/or CONSULTANT may be asked to revise the proposal based on feedback received during Steps 2 through 6.*

### **Sample Task Order**

1. Task Order No. (include FY)	Example: 1-09; 2-09
2. Title of Task:	
3. MTC Task Lead (if different from MTC Project Manager):	
4. Description of work:	<i>Summarize key task expectations. For more information, see attached <u>Task Order Budget and Schedule</u> and <u>Detailed Description of Work (attached)</u>.</i>
5. Original Maximum Payment:	
6. Amended Maximum Payment:	Include each amendment to maximum payment, by amendment number, for particular fiscal year.
7. Completion Date:	Date Schedule attached.
8. Payment terms:	<input type="checkbox"/> Time & Materials <input type="checkbox"/> Deliverables

7. Payment Terms

A. Time and Materials

	<u>Name/Position</u>	Est. Hrs	Hrly Rate	Total Cost*
1.				\$1
2.				\$1
3.				\$1
4.				\$1
<b>Total:</b>				\$4.00

\*Due upon satisfactory completion as determined by the MTC Project Manager.

B. Deliverables-based.

	<u>Deliverable</u>	Cost*
1.		\$1
2.		\$1
3.		\$1
<b>Total:</b>		\$3.00

\*Due upon satisfactory completion as determined by the MTC Project Manager.

METROPOLITAN TRANSPORTATION  
 COMMISSION SERVICE AUTHORITY FOR  
 FREEWAYS AND EXPRESSWAYS

COMPANY NAME

\_\_\_\_\_, Director of \_\_\_\_\_  
 Date: \_\_\_\_\_

\_\_\_\_\_  
 Signator Name, Title  
 Date

Task Order Schedule

Deliverable/Milestone		Due Date
		Date

Detailed Description of Work

## **APPENDIX B BID FORM**

### **I. Bid Form**

Bidder shall list its Bid Price for a single completed cabinet location. Cabinets contain DLC/Loop for each lane on the main line and on the ramps. The price listed shall be applied to each of the cabinet locations completed. It is the bidder's responsibility to bid reasonably and account for the variations in cabinet locations. Should the contract be extended, the Bid Price shall be increased by 3% following the end of the applicable MTC SAFE Fiscal Year (June 30).

The Bid Price is a firm fixed sum including all applicable surcharges such as taxes, insurance, and fringe benefits, as well as indirect costs, overhead and profit allowance.

<b>Task</b>	<b>Quantity</b>	<b>Bid Price</b>
Cabinet locations Completed and Verified by MTC SAFE	One (1)	

### **II. Hourly Rates**

Bidder shall provide hourly rates for staff. These rates will be used in time and materials Task Orders (if issued).

<b>Name</b>	<b>Title</b>	<b>Expertise</b>	<b>Hourly Rate**</b>

\*\*The hourly rates listed include all applicable surcharges such as taxes, insurance and fringe benefits as well as indirect costs, overhead and profit allowance, materials and supplies. These rates shall apply to task order work alone.

### **III. Lead Technician**

Name of Lead Technician: \_\_\_\_\_

<b>III.</b>	<b>Minimum Qualifications:</b> Check either yes or no	<b><u>Yes</u></b>	<b><u>No</u></b>
1.	Does your firm have an office located within the nine San Francisco Bay Area counties?		
2.	Does your firm have at least three (3) years of experience working with Traffic Operating System (TOS) hardware, servicing TOS hardware cabinets and the equipment within them, of which two (2) years must be experience working with freeway loops, traffic detectors and related equipment?		
3.	Does your company possess a valid C-10 Electrical License that meets the standards as described at: <a href="http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/C10Electrical.asp">http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/C10Electrical.asp</a> ?		
4.	Will the lead technician assigned to this project, and responsible for communicating issues with MTC SAFE, its representative or the Project Engineer, meet the Minimum Qualifications listed in Section III, Subarticle A, Minimum Qualifications, items 4a through 4e?		
5.	Can your firm provide six staff meeting the Minimum Qualifications listed in Section III, Subarticle A, Minimum Qualifications, items 4a through 4e?		
6.	Do all staff proposed for this project possess a valid California Driver's License?		
7.	Do all staff proposed for this project have knowledge of, and experience working with laptop and desktop computers, Microsoft Office and databases?		
8.	Do all staff proposed for this project understand how to use detection and loop electronics equipment such as Voltmeter, Loop Tester-Inductive Loop Analyzer ILA550, GPS, Memory Device to store information/photo, Tone Generator & Tracer, etc.?		
9.	Do all staff proposed for this project possess logical troubleshooting and problem solving skills, and have basic understanding of data communication?		



<b>IV. Signature of Authorizing Official:</b>	
Name of Bidding Company	
Address	
Phone Number	
Fax Number	
Email	
License Number and Type	
<b>By signing below you acknowledge and agree to provide the required services, and comply with all the terms and conditions (including all applicable insurance requirements) listed in this IFB.</b>	
Representative Name and Title	
Name of Authorizing Official	
Authorized Signature	

**V. NON-COLLUSION DECLARATION:**

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

\_\_\_\_\_, declares that he or she is  
(Bidder's Name)

\_\_\_\_\_ of \_\_\_\_\_,  
(Title) (Company's Name)

the party making the foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix to the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty or perjury under the laws of the State of California that the foregoing is true and correct.

\_\_\_\_\_  
Type/Print Appropriate Name, Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## APPENDIX C

### Reference Form

Name of Bidding Company \_\_\_\_\_

Representative Name & Title \_\_\_\_\_

Phone Number \_\_\_\_\_

References must not be relatives of the Bidder's representatives or owners. The references given must be for clients with contracts of a similar work scope to this project. References given must be for clients which will provide references which satisfy the minimum requirements detailed in the Invitation For Bids, Letter of Invitation. Only those references listed below shall be contacted. It is the Bidder's sole responsibility to list reliable and responsive references.

Contractor's References (Provide 3 clients)

1. **Client's Name** \_\_\_\_\_  
Service Provided \_\_\_\_\_  
Contact Person/Title \_\_\_\_\_  
Address \_\_\_\_\_  
City & Zip Code \_\_\_\_\_  
Phone Number & Email \_\_\_\_\_
2. **Client's Name** \_\_\_\_\_  
Service Provided \_\_\_\_\_  
Contact Person/Title \_\_\_\_\_  
Address \_\_\_\_\_  
City & Zip Code \_\_\_\_\_  
Phone Number & Email \_\_\_\_\_
3. **Client's Name** \_\_\_\_\_  
Services Provided \_\_\_\_\_  
Contact Person/Title \_\_\_\_\_  
Address \_\_\_\_\_  
City & Zip Code \_\_\_\_\_  
Phone Number & Email \_\_\_\_\_

**APPENDIX D**  
**KEY PERSONNEL ASSIGNMENTS**

	<u>Staff Name</u>	<u>Title/Project Task</u>	<u>Estimated Hours</u>
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	<b>TOTAL</b>		

**APPENDIX E**  
**SUBCONTRACTOR LIST**

	<u>Name/address of subcontractor</u>	<u>Description of Work</u>	<u>Estimated hours of work</u>
1.			
2.			
3.			

## APPENDIX F CALIFORNIA LEVINE ACT STATEMENT

California Government Code § 84308, commonly referred to as the “Levine Act,” precludes an officer of a local government agency from participating in the award of a contract if he or she receives any political contributions totaling more than \$250 in the 12 months preceding the pendency of the contract award, and for three months following the final decision, from the person or company awarded the contract. This prohibition applies to contributions to the officer, or received by the officer on behalf of any other officer, or on behalf of any candidate for office or on behalf of any committee.

MTC SAFE’s commissioners include:

Tom Azumbrado  
Tom Bates  
Dave Cortese  
Dean J. Chu  
Chris Daly  
Bill Dodd

Dorene M. Giacomini  
Federal D. Glover  
Scott Haggerty  
Anne W. Halsted  
Steve Kinsey  
Sue Lempert  
Jake Mackenzie

Jon Rubin  
Bijan Sartipi  
James P. Spering  
Adrienne J. Tissier  
Amy Rein Worth  
Ken Yeager

1. Have you or your company, or any agent on behalf of you or your company, made any political contributions of more than \$250 to any MTC SAFE commissioner in the 12 months preceding the date of the issuance of this request for qualifications?

☐ YES ☐ NO

If yes, please identify the commissioner: \_\_\_\_\_

2. Do you or your company, or any agency on behalf of you or your company, anticipate or plan to make any political contributions of more than \$250 to any MTC SAFE commissioners in the three months following the award of the contract?

☐ YES ☐ NO

If yes, please identify the commissioner: \_\_\_\_\_

Answering yes to either of the two questions above does not preclude MTC SAFE from awarding a contract to your firm. It does, however, preclude the identified commissioner(s) from participating in the contract award process for this contract.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
(SIGNATURE OF AUTHORIZED OFFICIAL)

\_\_\_\_\_  
(TYPE OR WRITE APPROPRIATE NAME, TITLE)

\_\_\_\_\_  
(TYPE OR WRITE NAME OF COMPANY)

## **APPENDIX G**

### **GENERAL CONDITIONS FOR MTC SAFE PURCHASE ORDERS**

1. DEFINITIONS

- a. MTC SAFE. Includes the Metropolitan Transportation Commission, the Metropolitan Transportation Commission Service Authority for Freeways and Expressways, or the Bay Area Toll Authority.
- b. Supplier. The individual, firm, partnership, corporation or combination thereof to whom a Purchase Order is mailed or otherwise furnished by MTC SAFE.
- c. Contract. The legal agreement between MTC SAFE and the Supplier, which includes the terms of any written solicitation of Bids or Proposals and any deviation from the written specifications expressly accepted by MTC SAFE ; the Supplier's bid, proposal, or offer; and all terms and conditions set forth in or attached to this Purchase Order. In the event of a conflict between one or more provisions of the Contract, the more specific or stringent provision with respect to Supplier's performance of the work shall apply.

2. ACCEPTANCE OF OFFER

This purchase order constitutes MTC SAFE's acceptance of Supplier's offer and becomes a binding contract, as defined above, when it is signed by MTC SAFE and mailed to Supplier. No revisions to or assignments of this order shall be valid unless in writing and signed by an authorized representative of MTC SAFE.

3. PERFORMANCE OF WORK

Supplier shall accomplish all the work and furnish all materials necessary for the completion of the work in a good, workmanlike and thorough manner and to the satisfaction of MTC SAFE, in accordance with the Contract.

4. CONTRACT PRICE

The firm fixed price(s) or other maximum payment set out in this purchase order, which includes full compensation to Supplier for performing all work required by the Contract, including all applicable federal, state and local taxes.

5. VARIATION IN QUANTITY, QUALITY OR PERFORMANCE

Any variation in the quantity, quality or performance of any item or service called for by this order shall be grounds for termination by default by MTC SAFE, as provided in 8a, unless approved by MTC SAFE in writing.

6. PACKAGING AND CRATING

All items shall be packed by Supplier in suitable containers for protection in shipment and storage. Prices set forth in this order include all charges for Supplier's packing, crating and marking for transportation to f.o.b. point.

7. INSPECTION AND ACCEPTANCE

Inspection and acceptance will be at destination, unless otherwise provided. Until delivery and acceptance, and after any rejections, risk of loss will be on the Supplier.

8. TERMINATION

- a. If Supplier fails to comply with any of the provisions of the Contract, or in the event Supplier becomes the subject of a proceeding under state or federal law for relief of creditors, or if Supplier makes an assignment for the benefit of creditors, MTC SAFE shall have the right to hold Supplier in default and cancel this order in whole or in part. In each event, MTC SAFE may obtain the items covered by the cancelled order from another Supplier and, if Supplier was selected as a result of a competitive procurement process, Supplier shall reimburse MTC SAFE for the excess cost to MTC SAFE, if any.
- b. Without affecting its right to cancel this order under paragraph (a) above, MTC SAFE may terminate this order in whole or in part prior to shipment of goods or provision of services at no cost by providing written

notice to the Supplier. In such event, MTC SAFE shall reimburse Supplier for non-recoverable costs incurred to date, not to exceed the Contract Price.

9. SCHEDULE

Unless otherwise agreed, material commitments and production arrangements should not be made by Supplier in excess of the amount or in advance of the time necessary to meet the specified delivery schedule. Time is of the essence in filling this order, and it is Supplier's responsibility to comply with MTC SAFE's delivery directions and/or schedule. Failure to deliver any item or provide any service called for by the contract within the time called for shall be grounds for termination for default as provided in 8.a.

10. INDEMNIFICATION

Supplier shall indemnify and hold harmless MTC SAFE and its commissioners, directors, officers, agents, and employees from and against all claims, demands, suits, loss, damage, injury and liability (including any and all costs and expenses incurred in connection therewith) incurred by reason of any negligent or otherwise wrongful act or omission of Supplier in connection with Supplier's performance of the Contract, including delivery of materials or equipment to MTC SAFE at the time and point of delivery indicated when delivery is an obligation of Supplier under the Contract.

11. INDEPENDENT CONTRACTOR

Supplier is an independent contractor and not an employee or agent of MTC SAFE.

12. PAYMENT

Supplier shall submit an invoice to MTC SAFE within thirty days after completion of work, unless otherwise specified in purchase order. MTC SAFE will pay invoices no later than thirty (30) days after their receipt conditioned upon approval of work done and amount billed. Invoices shall be made in writing and delivered or mailed to MTC SAFE as follows: Accounting Section, MTC SAFE, Joseph P. Bort MetroCenter, 101 Eighth Street, Oakland, CA 94607-4700.



## **APPENDIX G-1**

### **INSURANCE REQUIREMENTS**

**Minimum Insurance Coverages.** Contractor shall, at its own expense, obtain and maintain in effect at all times the following types of insurance against claims, damages and losses due to injuries to persons or damage to property or other losses that may arise in connection with the performance of work under this Agreement, placed with insurers with a Best's rating of A-X or better.

Yes (✓)	<b>Please certify by checking the boxes at left that required coverages will be provided within five (5) days of MTC SAFE's notice to firm that it is the successful proposer.</b>
—	<u>Workers' Compensation Insurance</u> in the amount required by the applicable laws, and Employer's Liability insurance with a limit of not less than \$1,000,000 per employee and \$1,000,000 per occurrence, and any and all other coverage of Contractor's employees as may be required by applicable law. Such policy shall contain a Waiver of Subrogation endorsement in favor of MTC SAFE. Such Workers Compensation & Employers Liability may be waived, if and only for as long as Contractor is a sole proprietor with no employees.
—	<u>Commercial General Liability Insurance</u> for Bodily Injury and Property Damage liability, covering the operations of Contractor and Contractor's officers, agents, and employees and with limits of liability which shall not be less than \$1,000,000 combined single limit per occurrence with a general aggregate liability of not less than \$2,000,000, and Personal & Advertising Injury liability with a limit of not less than \$1,000,000. Expense for Indemnatee's defense costs shall be outside of policy limits and such policy shall be issued on a Duty to Defend Primary Occurrence Form.  MTC SAFE, Caltrans, FHWA and their directors, commissioners, officers, representatives, agents and employees are to be named as additional insureds. Such insurance as afforded by this endorsement shall be primary as respects any claims, losses or liability arising directly or indirectly from Contractor's operations.
—	<u>Business Automobile Insurance</u> for all automobiles owned, used or maintained by Contractor and Contractor's officers, agents and employees, including but not limited to owned, leased, non-owned and hired automobiles, with limits of liability which shall not be less than \$1,000,000 combined single limit per occurrence.
—	<u>Umbrella Insurance</u> in the amount of \$2,000,000 providing excess limits over Employer's Liability, Automobile Liability, and Commercial General Liability Insurance.
—	<u>Property Insurance</u> covering Contractor's own business personal property and equipment to be used in performance of this Agreement, materials or property to be purchased and/or installed on behalf of MTC SAFE (if any), debris removal, and builders risk for property in the course of construction (if applicable). Coverage shall be written on a "Special Form" ("All Risk") that includes theft, but excludes earthquake, with limits at least equal to the replacement cost of the property. Such policy shall contain a Waiver of Subrogation in favor of MTC SAFE. If such insurance coverage has a deductible, the Contractor shall also be liable for the deductible.
<b>Deductibles:</b> Any deductibles or self-insurance retentions over \$100,000 are subject to the approval of MTC SAFE.	

**Notice of Termination:** All Contractor policies shall provide that the insurance carrier shall give written notice to MTC SAFE at least 60 days prior to cancellation, non-renewal or material change of coverage in the policy or policies, and shall provide notice of such change to MTC SAFE and any other additional insured.

**Additional Provisions:** Each policy or policies of insurance described in Commercial General Liability Insurance, above shall contain the following provisions:

Inclusion of MTC SAFE, FHWA, its directors, Commissioners, officers, representatives, agents and employees, as additional insured's with respect to work or operations in connection with this Agreement.

Endorsement providing that such insurance is primary insurance and no insurance of MTC SAFE will be called on to contribute to a loss.

**Certificates of Insurance:** Promptly on execution of this Agreement and prior to commencement of any work hereunder, Contractor shall deliver to MTC SAFE Certificates of Insurance verifying the aforementioned coverages. Such certificates shall make reference to all provisions and endorsements referred to above and shall be signed on behalf of the insurer by an authorized representative thereof. Contractor agrees, upon written request by MTC SAFE, to furnish copies of such policies or endorsements required under the Agreement prior to the Effective Date of the Agreement.

**Disclaimer:** The foregoing requirements as to the types of limits of insurance coverage to be maintained by Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by Contractor pursuant hereto, including, but not limited to, liability assumed pursuant to Section II, Paragraph D, Indemnity, above.

**7. Subcontractor's Insurance:** Contractor shall require each of its subcontractors to provide the aforementioned coverages, unless such coverages are waived or reduced in writing by the MTC SAFE Project Manager.

**By signing below, you acknowledge and agree to provide the required certificate of insurance providing verification of the minimum insurance requirements listed above within five (5) days of MTC SAFE's notice to firm that it is the successful proposer.**

Representative Name and Title	
Name of Authorizing Official	
Authorized Signature	
Date	

**NOTE: If you were unable to check "Yes" for any of the required minimum insurance coverages listed above, a request for exception to the appropriate insurance requirement(s) must be brought to MTC SAFE's attention no later than the date for protesting IFB provisions. If such objections are not brought to MTC SAFE's attention consistent with the protest provisions of this IFB, compliance with the insurance requirements will be assumed.**

**APPENDIX G-2**  
**ADDITIONAL PURCHASE ORDER TERMS AND CONDITIONS**

## I. COST PRINCIPLES

1. Contractor agrees, and will assure that its subcontractors will be obligated to agree, that (a) Contract Cost principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allow ability of individuals Project cost item and (b) all parties shall comply with Federal administrative procedures in accordance with 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to Sate and Local Governments. Every sub-recipient receiving Project funds as a Contractor or sub-contractor under this Agreement shall comply with Federal administrative procedures in accordance with 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to Sate and Local Governments
2. Any Project costs for which Contractor has received payment or credit that are determined by subsequent audit to be unallowable under Office of Management and Budget Circular A-87, 48 CFR, Chapter 1, Part 31 or 49 CFR, Part 18, are subject to repayment by Contractor to MTC SAFE. Should Contractor fail to reimburse moneys due Department within thirty (30) days of discovery or demand, or within such period as many be agreed in writing between the Parties hereto, MTC SAFE is authorized to intercept and withhold future payments due Contractor from MTC SAFE or ant third- party source, including, but not limited to, the State Treasure, the State Controller or any other fund source.
3. Contractor agrees to include Project in the schedule of project to be examined in Contractor's annual audit and in the schedule of project to be examined under its single audit prepared in accordance with Office Management and Budget Circular A133

## II. NON DISCRIMINATION

1. During the performance of this Agreement, Contractor and all of its subcontractors, if any, shall not unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, denial of family and medical care leave, and denial of pregnancy disability leave. Contractor and its subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code section 12900 et seq.) and the applicable regulation promulgated thereunder (California Code of Regulations, Title2, Section 7285.0 et seq.) The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by this reference and are made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligation under this clause to labor organization with which they have a collective bargaining or other agreement.

## III. RECORDS RETENTION

1. Contractor and its subcontractors shall establish and maintain an accounting system and records that properly accumulate and segregate incurred Project costs and matching funds by line for the project. The accounting system of Contractor and its subcontractors shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred cost at interim points of completion, and provide support for reimbursement vouchers or invoices. All accounting records and other supporting paper of Contractor and subcontractors connected with Project performance under this Agreement shall be maintained for a minimum of three (3) years from date of final payment to Contractor and shall be held open to inspection, copying, and audit by representatives of MTC SAFE, the California State Auditor, and auditors representing the Federal government. Copies thereof will be furnished by Contractor and its subcontractors upon receipt of any request made by MTC SAFE or its agents. In conducting an Audit of the costs and match credits claimed under this Agreement, MTC SAFE will rely to the maximum extent possible on any prior audit of Contractor pursuant to the provisions of Federal and State law. In the absence of such audit, any acceptable audit work performed by the Contractor external and internal auditors may be relied upon and used by MTC SAFE when planning and conducting additional audits.
2. For the purpose of determining compliance with Title 21, California Code Regulations, Section 2500 et seq., when applicable, and other matters connected with the performance of Contractor's contracts with third parties pursuant to Government subcontractors and MTC SAFE shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including, but not limited to, the cost of administering those various contracts. All of the above referenced parties shall make such materials available at their respective office at all reasonable time during the entire Project period and for three (3) years from date of final payment to Contractor under this Agreement. MTC SAFE, the California State Auditor, or any duly authorized representative of MTC SAFE or the United State Department of Transportation, shall each have access to any books, and documents that are pertinent to a project for audits, examinations, excerpts, and transactions, and Contractor shall furnish copies thereof if requested.
3. Contractor and its subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other agency of State of California designated by MTC SAFE, for the purpose of any investigation to ascertain compliance with this agreement.

#### IV. SUBCONTRACTORS

1. Any subcontractor in excess of \$25,000 entered into as a result of this Agreement shall contain all the provisions stipulated in this Agreement to be applicable to Contractor's subcontractors.

## APPENDIX H DEPARTMENT OF TRANSPORTATION REQUIREMENTS

1. Equal Employment Opportunity. Contractor shall not, on the grounds of race, color, sex, age, religion, national origin, ancestry, physical handicap, medical condition, or marital status either discriminate or permit discrimination against any employee or applicant for employment in any manner prohibited by Federal, State or local laws. In the event of Contractor non-compliance, MTC SAFE may cancel, terminate or suspend the Agreement in whole or in part. Contractor may also be declared ineligible for further contracts with MTC SAFE.

Contractor and its subcontractors shall take affirmative action to ensure that applicants are employed, and that employees are treated during their employment, without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor and its subcontractors shall post in conspicuous places, available to all employees and applicants for employment, a notice setting forth these provisions.

2. Disadvantaged Business Enterprise (DBE) and Small Business Enterprise Policy.
  - A. This Agreement is subject to 49 CFR, Part 26 entitled “Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.” Bidders who obtain DBE participation on this contract will assist Caltrans in meeting its federally mandated statewide overall DBE goal.
  - B. If the contract has an under-utilized DBE (UDBE) goal, the Contractor must meet the UDBE goal by using UDBEs as subcontractor or document a good faith effort to meet the goal. If a UDBE subcontractor is unable to perform, the Contractor must make a good faith effort to replace him/her with another UDBE subcontractor if the goal is not otherwise met. A UDBE is a firm meeting the definition of a DBE as specified in 49 CFR and is one of the following groups:
    1. Black American
    2. Asian-Pacific American
    3. Native American
    4. Women
  - C. DBE and other small businesses, as defined in 49 CFR, Part 26 are encouraged to participate in the performance of agreements financed in whole or in part with federal funds. The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the **performance** of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR, Part 26 in the award and administration of US DOT- assisted agreements. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate.

- D. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

## 2.1 Prompt Payment of Funds Withheld to Subcontractors

MTC SAFE shall hold retainage from the prime Contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency, of the contract work, and pay retainage to the prime Contractor based on these acceptances. The prime Contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49 CFR26.29) requires that any delay or postponement of payment over 30-days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime Contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime Contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime Contractor, deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE prime Contractors and subcontractors.

Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

## 2.2 DBE Records

- A. The Contractor shall maintain records of materials purchased and/or supplied from all subcontracts entered into with certified DBEs. The records shall show the name and business address of each DBE or vendor and the total dollar amount actually paid each DBE or vendor, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all firms. DBE prime Contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.
- B. Upon completion of the Agreement, a summary of these records shall be prepared and submitted on the form entitled, "Final Report-Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontractors," CEM-2402F (Exhibit 17-F in Chapter 17 of the LAP), certified correct by the Contractor or the Contractor's authorized representative and shall be furnished to the Contract Manager with the final invoice. Failure to provide the summary of DBE payments with the final invoice will result in twenty-five percent (25%) of the dollar value of the invoice being withheld from payment until the form is submitted. The amount will be returned to the Contractor when a satisfactory "Final Report Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontractors" is submitted to the Contract Manager.
- 1) Prior to the fifteenth of each month, the Contractor shall submit documentation to the MTC SAFE's Project Manager showing the amount paid to DBE trucking companies. The Contractor shall also obtain and submit documentation to the Agency's Contract Manager showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. If the DBE leases trucks from a non-DBE, the Contractor may count only the fee or commission the DBE receives as a result of the lease arrangement.

2) The Contractor shall also submit to the MTC SAFE's Project Manager documentation showing the truck number, name of owner, California Highway Patrol CA number, and if applicable, the DBE certification number of the truck owner for all trucks used during that month. This documentation shall be submitted on the Caltrans Monthly DBE Trucking Verification, CEM-2404(F) form provided to the Contractor by the Agency's Contract Manager.

### 2.3 DBE Certification and De-certification Status

If a DBE subcontractor is decertified during the life of the Agreement, the decertified subcontractor shall notify the Contractor in writing with the date of de-certification. If a subcontractor becomes a certified DBE during the life of the Agreement, the subcontractor shall notify the Contractor in writing with the date of certification. Any changes should be reported to the Agency's Contract Manager within 30 days.

### 2.4 Materials or supplies purchased from DBEs will count towards DBE credit, and if a DBE is also a UDBE, purchases will count towards the UDBE goal under the following conditions:

- A. If the materials or supplies are obtained from a DBE manufacturer, 100 % of the cost of the materials or supplies will count toward the DBE participation. A DBE manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises, the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.
- B. If the materials or supplies purchased from a DBE regular dealer, count 60 % of the cost of the materials or supplies toward DBE goals. A regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement, are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.
- C. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment, shall be by a long-term lease agreement and not an ad hoc or Agreement-by-Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this section.
- D. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

### 2.5 Performance of DBE Contractors and Other DBE Subcontractors/Suppliers

- A. A DBE performs a commercially useful function when it is responsible for execution of the work of the Agreement and is carrying out its responsibilities by actually performing, managing, and

supervising the work involved. To perform a commercially useful function, the DBE must also be responsible with respect to materials and supplies used on the Agreement, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, evaluate the amount of work subcontracted, industry practices; whether the amount the firm is to be paid under the Agreement is commensurate with the work it is actually performing, and other relevant factors.

- B. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, Agreement, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, examine similar transactions, particularly those in which DBEs do not participate.
  - C. If a DBE does not perform or exercise responsibility for at least thirty percent of the total cost of its Agreement with its own work force, or the DBE subcontracts a greater portion of the work of the Agreement than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that it is not performing a commercially useful function.
- 3. Title VI of Civil Rights Act of 1964. Contractor agrees to comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d) and its implementing regulations in 49 CFR Part 21.
  - 4. Debarment. In contracts over \$25,000, Contractor is required to certify, prior to executing a contract, that neither it nor its principals have been debarred from certain federal transactions by any Federal agency and to require any subcontractors with subcontracts over \$25,000 to provide a similar certification. (A copy of the required certification is included with this Appendix.)
  - 5. Audit and Inspection of Records. Contractor shall permit the authorized representatives of DOT, Federal Transit Administration (FTA) or the Federal Highway Administration (FHWA, and the Comptroller General of the United States to inspect and audit all data and records of the Contractor relating to its performance under this Agreement from the date of this Agreement until three (3) years after the close out of the federal grant from which this Agreement is financed, or four (4) years after the fiscal year of the expenditure, whichever is longer. This requirement must be passed along to subcontractors, excluding purchase orders not exceeding \$25,000.
  - 6. Subcontractors
    - A. Nothing contained in this Agreement or otherwise, shall create any contractual relation between the MTC SAFE and any subcontractors, and no subcontract shall relieve the Contractor of his/her responsibilities and obligations hereunder. The Contractor agrees to be as fully responsible to the MTC SAFE for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Contractor. The Contractor's obligation to pay its subcontractors is an independent obligation from the MTC SAFE's obligation to make payments to the Contractor.
    - B. Any subcontract in excess of \$25,000, entered into as a result of this Agreement, shall contain all the provisions stipulated in this Agreement to be applicable to subcontractors.
    - C. Contractor shall pay its subcontractors within ten (10) calendar days from receipt of each payment made to the Contractor by the MTC SAFE.



D. Any substitution of subcontractors must be approved in writing by the MTC SAFE's Project Manager in advance of assigning work to a substitute subcontractor.

6. Federal Grant Requirements. Those laws, statutes, ordinances, rules, regulations and procedural requirements which are imposed on MTC SAFE as a recipient of federal funds are imposed on Contractor, including compliance with 49 CFR Part 18, FTA Circular 4220.1D and the current FTA Master Agreement, a copy of which is available through MTC SAFE.
7. Identification of Documents. All reports and other documents completed as part of this Agreement shall carry the following notation on the front cover or title page:

The preparation of this report has been financed in part by grants from the Federal Transit Administration, U.S. Department of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

8. Rights in Data. The Federal Government reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes: (a) the copyright in any work developed under this Agreement; and (b) any rights of copyright to which MTC SAFE or Contractor purchases ownership under this Agreement.
9. State Energy Conservation Plan. Contractor shall comply with all mandatory standards and policies relating to energy efficiency that are contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6321 *et seq.*).
10. Clean Air and Water Pollution Act. Contractor agrees to comply with the applicable requirements of all standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. § 7501 *et seq.*), the Clean Water Act (33 U.S.C. § 1251 *et seq.*), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).
11. Restrictions on Lobbying. In agreements over \$100,000, Contractor is required to execute a certificate indicating that no federal funds will be used to lobby federal officials and to disclose lobbying activities financed with non-federal funds. (Certificate attached.)

**APPENDIX H-1**  
**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER**  
**RESPONSIBILITY MATTERS**

(Third Party Contracts and Subcontracts over \$25,000)

**Instructions for Certification:**

1. **By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below.**
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, MTC SAFE may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to MTC SAFE if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact MTC SAFE for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by MTC SAFE.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Service Administration.
8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, MTC SAFE may pursue available remedies including suspension and/or debarment.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION,  
INELIGIBILITY AND VOLUNTARY EXCLUSION  
LOWER TIER COVERED TRANSACTION

(1) The prospective lower tier participant certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 49 C.F.R. Section 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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Date

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(signature of authorized official)

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(type/print name and title)

**APPENDIX H-2**  
**CERTIFICATION OF RESTRICTIONS ON LOBBYING**

I, \_\_\_\_\_ hereby certify on behalf of \_\_\_\_\_ that:  
(name and title of grantee official) (name of grantee)

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

By

\_\_\_\_\_  
(signature of authorized official)

\_\_\_\_\_  
(title of authorized official)

### APPENDIX H-3

## LOCAL AGENCY PROPOSER/BIDDER DBE INFORMATION (CONTRACTOR CONTRACTS)

Agency: MTC SAFE				
Location: 101 – 8 <sup>th</sup> Street, Oakland, CA 94607-4700				
Project Description: Detection Fitness				
Proposal Date:		Total Contract Amount:		
Proposer's Name:				

  

CONTRACT ITEM NO.	DESCRIPTION OR SERVICES TO BE SUBCONTRACTED	DBE Cert. No. AND EXPIRATION DATE	NAME OF DBEs (Must be certified on the date bids are opened - include DBE address and phone number)	PERCENTAGE OF DBE

  

<b>For Local Agency to Complete:</b>  Local Agency Contract Number: _____  Federal Aid Project Number: _____  Federal Share: _____  Contract Award Date: _____  Local Agency certifies that the DBE certification(s) has been verified and all information is complete and accurate.  <div style="display: flex; justify-content: space-between;"> <span>Print Name _____</span> <span>Signature _____</span> <span>Date _____</span> </div> Local Agency Representative  (Area Code) Telephone Number: _____		<div style="text-align: center;">           Total Claimed             Participation         </div> <div style="display: flex; justify-content: space-between;"> <span>\$ _____</span> <span>_____ %</span> </div>
<b>For Caltrans Review:</b>  <div style="display: flex; justify-content: space-between;"> <span>Print Name _____</span> <span>Signature _____</span> <span>Date _____</span> </div> Caltrans District Local Assistance Engineer		Signature of Proposer  <hr/> Date _____ (Area Code) Tel. No. _____  Person to Contact _____ (Please Type or Print)  Local Agency Bidder - DBE Commitment(Rev 3/09)

Distribution: (1) Copy – Fax or scan a copy to the Caltrans District Local Assistance Engineer (DLAE) within 15 days of contract execution. Failure to send a copy to the DLAE within 15 days of contract execution may result in de-obligation of funds for this project.  
 (2) Original – Local agency files

## INSTRUCTIONS - LOCAL AGENCY PROPOSER DBE INFORMATION (CONSULTANT CONTRACTS) (Revised 03/09)

### **SUCCESSFUL PROPOSER:**

The form requires specific information regarding the consultant contract: Agency, Location, Project Description, Federal Aid Project Number (assigned by Caltrans-Local Assistance), Proposal Date, and Successful Proposer's Name.

The form has a column for the Description or Services to be Subcontracted by DBEs. The DBE should provide a certification number to the prime consultant. The form has a column for the Names of DBE certified consultants to perform the work (must be certified on the date the proposal is received and include DBE address and phone number). Enter DBE prime consultant's and subconsultants' certification numbers. The prime consultant shall indicate all work to be performed by DBEs including, if the prime consultant is a DBE, work performed by its own forces.

Enter the Total Claimed DBE Participation percentage of items of work in the total DBE Dollar Amount column. (If 100% of item is not to be performed by the DBE, describe the exact portion of time to be performed by the DBE.) See Notice to Bidders/Bidders Disadvantaged Business Enterprise Information to determine how to count the participation of DBE firms.

Exhibit 10-O (2) must be signed and dated by the successful proposer at contract execution. Also list a phone number in the space provided and print the name of the person to contact.

**For the successful proposer, Local agencies** should complete the Contract Award Date and Federal Share fields and verify that all information is complete and accurate before signing and sending a copy of the form to the District Local Assistance Engineer within 15 days of contract execution. Failure to submit a completed and accurate form within the 15-day time period may result in the de-obligation of funds on this project.

**District DBE Coordinator** should verify that all information is complete and accurate. Once the information has been verified, the **District Local Assistance Engineer** signs and dates the form.

**APPENDIX H-4**  
**LOCAL AGENCY PROPOSER UDBE COMMITMENT (CONTRACTOR CONTRACTS)**

Agency: MTC SAFE				
Location: 101 – 8 <sup>th</sup> Street, Oakland, CA 94607-4700				
Project Description: Detection Fitness				
Proposal Date:			Contract Goal:	
Proposer's Name:				
WORK ITEM NO.	DESCRIPTION OR SERVICES TO BE SUBCONTRACTED	DBE Cert. No. AND EXPIRATION DATE	NAME OF UDBEs (Must be certified on the date the proposals are opened - include UDBE address and phone number)	PERCENTAGE AMOUNT OF EACH UDBE
<b>For Local Agency to Complete:</b>			Total Claimed  Participation	\$ _____
Local Agency Contract Number: _____				
Federal Aid Project Number: _____				
Federal Share: _____				%
Proposal Award Date: _____				
Local Agency certifies that the UDBE certification(s) has been verified and all information is complete and accurate.				
_____ Print Name                  Signature                  Date Local Agency Representative			Signature of Proposer	
(Area Code) Telephone Number: _____			Date (Area Code) Tel. No.	
<b>For Caltrans Review:</b>				
_____ Print Name                  Signature                  Date Caltrans District Local Assistance Engineer			Local Agency Bidder - UDBE Commitment (Rev 3/09)	

Distribution: (1) Copy – If this Proposer is successful fax or scan a copy to the Caltrans District Local Assistance Engineer (DLAE) within 15 days of award. Failure to send a copy to the DLAE within 15 days of award may result in de-obligation of funds for this project.  
(2) Original – Local agency files



## **INSTRUCTIONS - LOCAL AGENCY PROPOSER- UDBE COMMITMENT (CONSULTANT CONTRACTS) (Revised 03/09)**

### **ALL BIDDERS:**

**PLEASE NOTE: It is the Proposer's responsibility to verify that the UDBE(s) falls into one of the following groups in order to count towards the UDBE contract goal: 1) Black American; 2) Asian-Pacific American; 3) Native American; 4) Women. This information shall be submitted with your proposal. Failure to submit the required UDBE commitment will be grounds for finding the proposal nonresponsive**

UDBE is a firm meeting the definition of a DBE as specified in 49 CFR and is one of the following groups:

1. Black American
2. Asian-Pacific American
3. Native American
4. Women

The form requires specific information regarding the consultant contract: Agency, Location, Project Descriptions, Federal Aid Project Number (assigned by Caltrans-Local Assistance), Proposal Date, Proposer's Name, and Contract Goal.

The form has a column for the Work Item Number (or Item No's) and Description or Services to be Subcontracted to UDBEs. The UDBE should provide a certification number to the Consultant. Notify the Consultant in writing with the date of the decertification if their status should change during the course of the contract. The form has a column for the Names of certified UDBEs to perform the work (must be certified on the date proposals are received and include UDBE address and phone number). Enter the UDBE prime consultant and subconsultant certification numbers. Prime consultants shall indicate all work to be performed by UDBEs including, if the prime consultant is a UDBE, work performed by its own forces.

There is a column for the total UDBE percentage. Enter the Total Claimed UDBE Participation percentage of items of work submitted with the proposal pursuant to the Special Provisions. (If 100% of item is not to be performed or furnished by the UDBE, describe exact portion of time to be performed or furnished by the UDBE.) See Notice to Bidders/Bidders Disadvantaged Business Enterprise Information to determine how to count the participation of UDBE firms. Note: If the proposer has not met the contract goal, the local agency must evaluate the proposer's good faith efforts to meet the goal in order to be considered for award of the contract.

Exhibit 10-O (1) must be signed and dated by the consultant proposing. Also list a phone number in the space provided and print the name of the person to contact.

**For the Success Proposer only, local agencies** should complete the Contract Award Date and Federal Share fields and verify that all information is complete and accurate before signing and sending a copy of the form to the District Local Assistance Engineer within 15 days of award. Failure to submit a completed and accurate form within the 15-day time period may result in the de-obligation of funds on this project.

**District DBE Coordinator** should verify that all information is complete and accurate. Once the information has been verified, the **District Local Assistance Engineer** signs and dates the form.

## APPENDIX H-5

### UDBE Information—Good Faith Efforts

Federal-aid Project No. \_\_\_\_\_ Bid Opening Date \_\_\_\_\_

MTC SAFE established an Under-utilized Disadvantaged Business Enterprise (UDBE) goal of 4% for this project. The information provided herein shows that a good faith effort was made.

Bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the “Local Agency Bidder – UDBE Commitment” form indicates that the bidder has met the UDBE goal. This will protect the bidder’s eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a UDBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the “Local Agency Bidder – UDBE Commitment” form may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in the Section entitled “Submission of UDBE Commitment” of the Special Provisions:

- A. The names and dates of each publication in which a request for UDBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement
_____	_____
_____	_____
_____	_____
_____	_____

- B. The names and dates of written notices sent to certified UDBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the UDBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of UDBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- C. The items of work which the bidder made available to UDBE firms, including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate UDBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate UDBE participation was made available to UDBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

- D. The names, addresses and phone numbers of rejected UDBE firms, the reasons for the bidder's rejection of the UDBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each UDBE if the selected firm is not a UDBE:

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Names, addresses and phone numbers of rejected UDBEs and the reasons for the bidder's rejection of the UDBEs:

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- E. Efforts made to assist interested UDBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to UDBEs:

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- F. Efforts made to assist interested UDBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the UDBE subcontractor purchases or leases from the prime contractor or its affiliate:

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- G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using UDBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

- H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

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Name of Proposing Company	
Signature of Authorizing Official	
Date	

**(Appendix A-1)**

# **TEMS DATABASE FIELD PROCEDURES**

Prepared by: Keith Aidun  
Electrical Systems Operations

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**APPENDIX D: Cabinet Locations**

## I. PRIOR TO FIELD VISIT

<b>A. LOCATION DATA</b>	<p>From existing files / records obtain all available information for the location to be visited:</p> <p>Cabinet ID (Equipment Maintenance ID)</p> <p>Direction</p> <p>County</p> <p>Route</p> <p>Post mile</p> <p>Modem ID</p> <p>Phone number</p> <p>Group &amp; Drop numbers</p> <p>Configuration Code (consult Operation's Staff, if needed)</p> <p>PeMS operational status [no communication, card off, etc.].</p>
<b>B. PLANS / FORMS</b>	<p>Obtain necessary Forms and Plans:</p> <p>Appropriate TOS "Field Inventory Data" Form (Appendix A)</p> <p>Appropriate "Input File Card Assignment" Form based on configuration code (Appendix B)</p> <p>"TEMS Software Design V0.2 Edited" Document (Appendix C)</p> <p>Two copies of Plans/As Built (with the appropriate controller cabinet, service cabinet, mainline &amp; on/off ramp loops and pull boxes containing the loops/DLC splicing highlighted)</p>
<b>C. RAMP METERING LOCATIONS</b>	<ol style="list-style-type: none"> <li>1. Determine if the location is an active ramp metering location (Appendix D).</li> <li>2. If the location is an active ramp metering location, contact Project Engineer at least 48 hours prior to visiting that site.</li> <li>3. Avoid disrupting the Controller's ramp metering program (such as rebooting the Controller, changing Configuration Code, turning off the Controller, etc.)</li> <li>4. Be aware of the ramp metering hours of operation (Appendix D).</li> </ol> <p>No field visit should occur during the times the ramp metering lights are on.</p>
<b>D. FIELD TOOLS</b>	<p>Obtain Test Equipment &amp; Tools:</p> <p>Laptop with wireless network connection</p> <p>Voltmeter</p> <p>Loop Tester [Inductive Loop Analyzer ILA550]</p> <p>GPS unit</p> <p>TV Monitor [not required for VDS inventory]</p> <p>Digital Camera</p> <p>Pliers, Screw Drivers, Cable Crimper</p> <p>Cabinet Keys, etc.</p>
<b>E. SPARE EQUIPMENT &amp; SUPPLIES</b>	<p>Obtain Spare Equipment &amp; Supplies:</p> <p>Controller (170E)</p> <p>Eprom Board (with TOS 2.1.1 chip or higher version)</p> <p>Sensor Cards (222, 3M)</p> <p>C2 Cable</p> <p>CCU, VEU, Router/TA, CIA, CMS Prom Board</p> <p>Equipment ID Labels</p> <p>Power Supply for Modem (including wires/cables &amp; bracket)</p> <p>Antenna</p> <p>Fuses, etc.</p> <p>Padlock</p>

## II. DURING FIELD VISIT

### A. CONFIRM LOCATION

<b>1. LOCATION ACCURACY</b>	<p>In the field, confirm the accuracy of the location by comparing the data collected from office with the data available in the field [Equipment Maintenance ID, direction, county, route, post mile, modem ID, phone number, drop, configuration code, Plans/As Built, location description, etc.].</p>
<b>2. PLAN CORRECTION</b>	<p>If necessary, correct both copies of the Plans/As Built [such as: locations of cabinets, pull boxes (for main line &amp; ramps loop/DLC)]. Record the Maintenance ID next to the equipment symbol on the plans. Place one of the corrected copies in the cabinet and bring the other back to office to be filed.</p>
<b>3. LOCATION STATUS &amp; CORRECTION</b>	<p>Determine the status of the location. Is it operational? [Does the Controller respond to Modem and Modem Tx/Rx to/from TMC?]</p> <p>To verify:</p> <ol style="list-style-type: none"> <li>1. The zero (0) LED on the front of the Controller should blink approximately every 30 seconds.</li> <li>2. The Tx/Rx LED on the top of the Modem should blink approximately every 30 seconds.</li> </ol> <p>If possible, correct problems to make the location operational. If it is unclear on how to address any minor problem, the Project Engineer should be consulted. Some example of corrective action to be taken: Install missing or replace faulty equipment (such as Controller, Modem, Sensor Cards, C2 Cable, Power Supply, Antenna, etc.); Correct wrong parameters (such as Drop, Configuration Code, DLC Termination, etc.).</p>



## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### TOS "Field Inventory Data" Form (Appendix A) and input information into its boxes/fields

Name	Name(s) of staff performing the field inventory.
Date of Inventory	Date field inventory was performed.
VDS	Check box if cabinet contains "Vehicle Detector Station" equipment.
MVDS	Check box if cabinet contains "Microwave Vehicle Detection Systems" equipment.
CCTV	Check box if cabinet contains "Close Circuit Television" equipment.
EMS	Check box if cabinet contains "Extinguishable Message Sign" equipment.
CMS	Check box if cabinet contains "Changeable Message Sign" equipment.
HAR	Check box if cabinet contains "Highway Advisory Radio" equipment.
OTHER	Check box if cabinet contains other type of highway equipment. Write name of equipment in the box.

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 1. LOCATION / CABINET & RELATED EQUIPMENT

Direction	Direction of the FWY where the cabinet is located [North, South, East or West].
County	Two digit county number where the cabinet is located [Alameda (Ala):33, Contra Costa (CC):28, Marin (Mrn):27, Napa (Nap):21, San Francisco (SF):34, San Mateo (SM):35, Santa Clara (SCI):37, Santa Cruz (SCr):36, Solano (Sol):23, Sonoma (Son):20, San Benito (SBt):43, San Joaquin(SJq):29].
Route	Three digit FWY number [001, 004, 009, 012, 013, 017, 024, 025, 029, 035, 037, 080, 082, 084, 085, 087, 092, 101, 116, 130, 152, 205, 237, 238, 242, 280, 380, 505, 580, 680, 780, 880, 880S, 980].
File PM	Post Mile of the cabinet from the office files/records.
Power	Circle Yes/No for existence/non-existence of AC Power in the cabinet.
Maintenance ID	Equipment Maintenance Identification numbers attached to Cabinet [example: E33GC, DT953, TVC52].
Model / Type	Cabinet model number [example: 331/336C Sound Wall, 332, 334, 334B, 356BB].
AC Outlet Strip	Circle Yes/No for existence/non-existence of "AC Outlet Strip" in the cabinet.
Manufacturer	Cabinet manufacturer [example: Safetran, McCain, Signal Control Co.].
Date	Cabinet In Service Date.
Aux. Output File	Circle Yes/No for existence/non-existence of the "Aux. Output File" in the cabinet.
Latitude	Place GPS Unit on top of #6 Pull Box located next to the cabinet [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance. Variance can be reduced by changing the direction of GPS Unit [ex.: from +20' to +15'].
Longitude	Place GPS Unit on top of #6 Pull Box located next to the cabinet [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance. Variance can be reduced by changing the direction of GPS Unit [ex.: from +20' to +15'].
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of #6 Pull Box located next to the cabinet [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 1. LOCATION / CABINET & RELATED EQUIPMENT

PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the Cabinet location [include Prefix/Suffix if in existence].
Service Transformer	Circle Yes/No for existence/non-existence of Service Transformer.
No. of Sensor Cards	Number of detector/sensor cards.
No. of Load Switches	Number of Load Switches / Switch Packs.
Brand	Load Switches / Switch Packs manufacturer.
Lock key type	Circle the appropriate box for the cabinet key/Lock type.
Cab. Photo No.	Take five photos in the following sequential order showing: Photo 1- Maintenance ID on the cabinet & the surrounding Photo 2- Front of cabinet & equipment with door open Photo 3- Close up of the Controller showing Drop & Config. on the Prom Board Photo 4- Back of cabinet & equipment with door open Photo 5- Close up of the Modem showing Labels
Cab. Status	Cabinet Status: <b>PA&amp;ED:</b> Project Approval & Environmental Document [Pre-Design Phase] <b>PS&amp;E:</b> Plans, Specification & Estimate [In the Design Phase] <b>Incomplete:</b> Component missing after construction, "long-term" fix [might be fixed by Maint. and/or future construction] <b>Functional:</b> It works locally in the field <b>Out of Order:</b> It was operational, temporarily out of service [knockdown, broken equipment for which we have a spare on hand, etc.] <b>Operational:</b> It is available at TMC <b>Construction:</b> It is in construction [contract has been awarded, new build, modify, relocate, etc.] <b>Abandoned:</b> No longer used, out dated, removed from service <b>Unknown.</b>
Cross Street Description/ Functional Description & City	Follow the naming convention described in Section II. D. "Entering Data Into TEMS Database".

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 2. CONTROLLER & RELATED EQUIPMENT

Brand	Controller's manufacturer name [example: McCain, DTS, Safetran].
Model	Controller's model / type [example: 170E].
Serial No.	Controller's serial number [located at the back of controller].
Eprom Vrs. SW Version	Controller's Eprom Board Chip Version number [example: 2.1.1 or 2.1.2]. The Chip Version number code can be obtained from Eprom Board chip or by inputting the code "A" then "2C02" into the Controller's Key Pad.
Conf. Code	Configuration code for the location. The configuration code can be obtained from Eprom Board lower Dip S/W or by inputting the code "A" then "7000" into the Controller's Key Pad.
Group No.	Group number for the location. The Group number can be verified by TMC or Operations Group.
Drop No.	Drop number (address) for the location. The Drop number should be obtained from Eprom Board upper Dip S/W or by inputting the code "A" then "7001" into the Controller's Key Pad.
Slot1 Module Model	Circle Yes/No for existence/non-existence of modem card in slot 1 of controller. If modem exists, indicate manufacturer / brand name.
Slot 2 Module Model	Circle Yes/No for existence/non-existence of modem card in slot 2 of controller. If modem exists, indicate manufacturer / brand name.
C2 Harness	Circle Yes/No for existence/non-existence of C2 Harness.
Controller Status	Controller [PA&ED, PS&E, Construction, Incomplete, Functional, Out of order, Operational, Abandoned, Unknown].

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 3. POWER SERVICE CABINET & RELATED EQUIPMENT

Service Cabinet ID	Service Cabinet [Service equipment Enclosure] Identification number is made-up of: "DDCCRRRXPPPPPS" DD=District Code [ex. 04] CC=County Code [ex. 28] RRR=Route [ex. 004] X=Alignment Version [O: Original, R: 1st Revision, M: 2nd Revision, L: 3rd Revision], PPPPP=Post Mile [ex. 03314], S=Side of Road Way [Right: Even numbers, Left: Odd numbers"]. Take the number from the Service Cabinet and using above format complete the Service Cabinet ID. Example: 04280040033141.
Brand	Service Cabinet's manufacturer / brand name [example: TESCO].
Cab. Type	Service Cabinet's model/type [example: Type IIIA-F].
Services	Circle the appropriate box(es) that the Service Cabinet provides power.
Latitude	Place GPS Unit on top of the Pull Box located next to the Service Cabinet [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Longitude	Place GPS Unit on top of the Pull Box located next to the Service Cabinet [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull Box located next to the Service Cabinet [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
T of U Meter	Circle Yes/No for existence/non-existence of a Time of Use Meter in the Service Cabinet.
Power	Circle Yes/No for existence/non-existence of AC Power in the Service Cabinet.
Meter No.	Enter the Time of Use Meter Number [example: 9M3031].

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 3. POWER SERVICE CABINET & RELATED EQUIPMENT

Service Voltage / Line Voltage	Enter the Service / Line Voltage [example: 120V/240V].
Utility Company	Name of utility company [example: PG&E] that provides power to the service cabinet.
No. of Spare Single Breaker & Position	Add the total number of spare single circuit breakers plus the number of available positions in the service cabinet.
Lock type	Write the appropriate Service Cabinet Lock type [example: CCL, Corbin, Chicago Ace].
Load Conduit	Load conduit size [example: 1/2", 1", 1-1/2", 2", 2-1/2", 3"].
Main Breaker	Circle the appropriate box of the Service Cabinet Main Breaker Rating [example: 100A].
Service Cab. Status	Status of the Service Cabinet [PA&ED, PS&E, Construction, Incomplete, Functional, Out of order, Operational, Abandoned, Unknown].
Cross Street Description & City	Follow the naming convention described in Section II. D. "Entering Data Into TEMS Database".

#### Notes:

**Write any comments and notes significant and unique to this location and its related equipment**  
**[Example: No Power, Pull Box or Loops not visible, etc.].**

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 4. TOS ELEMENTS

##### i. VDS & COMMUNICATION EQUIPMENT

##### MAIN LINE, RAMP & RELATED EQUIPMENT

Number Main Lanes	Input the number of mainline lanes in the appropriate box and circle the direction [ie N/W and S/E].
Number Ramp Lanes	Input the number of D [Demand], P [Passage], Q [Queue] and F [Off] lanes in its appropriate boxes.
Number Metered Lanes	Input the number of metered lanes in the box and circle the appropriate box if they are active or inactive.
Detector Technology Type	Circle the appropriate box if it is dual, single or other type of detectors. Write type of the detector [example: loop, magnetic, magnetometer, RTMS, Smart Sensor] in the box.
Number of Signal Heads	Input total number of Ramp Signal Heads, and input number of Signal Heads that are on left lane, center lane & right lane in the appropriate boxes.
Pull Box ML-MS Latitude	Place GPS Unit on top of the Pull-Box where mainline metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box ML-MS Longitude	Place GPS Unit on top of the Pull-Box where mainline metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15"].
Elev.	Place GPS Unit on top of the Pull-Box where mainline metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Pull Box ML-OS Latitude	Place GPS Unit on top of the Pull-Box where mainline opposite metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box ML-OS Longitude	Place GPS Unit on top of the Pull-Box where mainline opposite metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15"].
Elev.	Place GPS Unit on top of the Pull-Box where mainline opposite metered side loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].

## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 4. TOS ELEMENTS

##### i. VDS & COMMUNICATION EQUIPMENT

##### MAIN LINE, RAMP & RELATED EQUIPMENT

Pull Box D-P (Cab. Side Ramp) Latitude	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box D-P (Cab. Side Ramp) Longitude	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Pull Box D-P (Non Cab. Side Ramp) Latitude	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box D-P (Non Cab. Side Ramp) Longitude	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Demand & Passage loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Pull Box Q (Cab. Side Ramp) Latitude	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box Q (Cab. Side Ramp) Longitude	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elev. [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhggisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].



## II. DURING FIELD VISIT

### B. TEMS INVENTORY

#### 4. TOS ELEMENTS

##### i. VDS & COMMUNICATION EQUIPMENT

##### MAIN LINE, RAMP & RELATED EQUIPMENT

Pull Box Q (Non Cab. Side Ramp) Latitude	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box Q (Non Cab. Side Ramp) Longitude	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Queue loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elevation [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Pull Box F (Cab. / Non Cab. Side Ramp) Latitude	Circle Cab. or Non Cab. if off ramp is on Cab. or Non Cab. Side. Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box F (Cab. / Non Cab. Side Ramp) Longitude	Circle Cab. or Non Cab. if off ramp is on Cab. or Non Cab. Side. Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the cabinet side of ramp where Off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Elev. [2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Pull Box F (Cab. / Non Cab. Side Ramp) Latitude	Circle Cab. or Non Cab. if off ramp is on Cab. or Non Cab. Side. Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Latitude [6 decimals pts.]. Take the reading with the smallest variance.
Pull Box F (Cab. / Non Cab. Side Ramp) Longitude	Circle Cab. or Non Cab. if off ramp is on Cab. or Non Cab. Side. Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take the Longitude [6 decimals pts.]. Take the reading with the smallest variance.
Accur.	Accuracy [variance] for Latitude & Longitude shown by GPS equipment [example: +15'].
Elev.	Place GPS Unit on top of the Pull-Box on the non cabinet side of ramp where Off ramp loop wires & DLCs are spliced [without blocking GPS face from sky], use the GPS unit to take Elev.[2 decimals pts.].
PM	Use Laptop to enter the Latitude and Longitude into the "Post Mile Services" ( <a href="http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#">http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html#</a> ) and calculate the PM [3 decimals pts.] for the location [include Prefix/Suffix if in existence].
Comments	Record any problems, observations and corrective actions

## II. DURING FIELD VISIT

<b>B. TEMS INVENTORY</b>	
<b>4. TOS ELEMENTS</b>	
<b>i. VDS &amp; COMMUNICATION EQUIPMENT</b>	
<b>COMMUNICATION &amp; RELATED EQUIPMENT</b>	
Modem Brand	Modem manufacturer name [example: Airlink / Raven].
Modem Name Number	Modem name / number can be found on the modem [example: E33GC].
Modem Model Circuit Type	Modem model / Circuit Type [example: GPRS G3210].
Static IP	Connect Laptop to the modem and search the "Wireless ACE Program" for the static IP number.
Phone No.	Modem phone number [example: 510-604-2212].
SIM No.	Modem SIM card number [example: 89310380101074617062].
In Service Date	Modem In Service Date.
F'ware Vrs.	Connect Laptop to the modem, search in the Wireless ACE Program for the modem firmware version.
Serial No.	Modem serial number [example: 040654720].
Setup Mode	Select one: Multi-drop, Master, Slave or Other. Modem Setup Mode can be verified by Operations Group.
Antenna Type	<p>Circle the appropriate box for antenna type [Dual frequency Band or Single frequency Band]. The antenna type can be distinguished by the following approximate physical characteristic.</p> <p><u>Dual Band Antenna:</u></p> <ol style="list-style-type: none"> <li>1. Circular (4.5" diameter)</li> <li>2. Low Profile (.75" high)</li> <li>3. Vertical edge (90°)</li> <li>4. Gray color</li> </ol> <p><u>Single Band Antenna:</u></p> <ol style="list-style-type: none"> <li>1. Circular (4.5" diameter)</li> <li>2. Low Profile (.75" high)</li> <li>3. Slope edge (45°)</li> <li>4. Black color.</li> </ol>
IMEI No.	Modem IMEI number [example: 010132000046820].
Group No.	Group number for the location. The Group number can be verified by TMC or Office of Electrical Systems (Operations Group).
Booster	Circle Yes/No for existence/non-existence of modem booster in the cabinet.
Service Provider	Name of the company providing communication service [example: AT&T].
Billing Number	Billing Number can be obtained from Office of Electrical Systems (Operations Group).
Modem Status	Enter "working" or "not connected".
Comments	Record any problems, observations and corrective actions

## II. DURING FIELD VISIT

### C. DETECTOR HEALTH & PEMS ACCURACY

#### 1. LOOP & DLC MEASUREMENT

##### Measure Loops/DLCs & input data into boxes/fields of "Input File Card Assignment" Form

1. Select an appropriate "Input File Card Assignment" Form according to the "Configuration Code Table" (Appendix B).
2. Fill in the appropriate boxes: Config. Code  
Date  
Location ID  
Cabinet ID  
Location Description  
Engineer Name(s)  
Number of DLCs [MS/N-W, OS/S-E, D, P, Q, F]
3. Following the procedure below measure the electrical parameters [Inductance, Resistance, Q & MEG] for all the Loops/DLCs using the Inductive Loop Analyzer (ILA550):
  - a) Before any measurements, remove all sensor cards [222 cards].
  - b) Connect the two alligator clips of "ILA550" to leads 1 & 2 of the first DLC [1-1].  
Turn the meter dial and select Loop.  
Wait a few seconds for the meter to stabilize.  
Take the readings for Inductance, Resistance, Q and fill in the boxes on the Form.
  - c) Disconnect one of the alligator clips, and connect to the DLC's ground wire.  
Turn the meter dial and select MEG.  
Wait a few seconds for the meter to stabilize.  
Press the Reset/MEG bottom for a short time and take the reading for the MEG, and fill in the box on the Form.
  - d) If the Resistance is infinite (open) and/or Meg<100, circle "B" (bad); otherwise circle "G" (good).
  - e) Repeat steps for all the DLCs.
4. Record any problems, observations and corrective actions  
(example: replaced bad sensor cards, corrected DLC terminations, etc.).

## II. DURING FIELD VISIT

### C. DETECTOR HEALTH & PEMS ACCURACY

#### 2. DLC TERMINATION & PEMS VERIFICATION

##### DLC Termination Verification:

The purpose is to verify that each lane is correctly terminated in the cabinet.

For mainline lanes with dual loops, the upstream loop is terminated first followed by the termination of the downstream loop (correct if upstream and downstream loops are terminated in reverse).

The upstream and downstream loops are represented by two LEDs on the sensor cards.

The LEDs should turn on when a vehicle is initially detected by the loops, and should remain on until the vehicle completely passes over the loops.

The following procedure can only be performed for lanes with at least one good (operational) loop.

1. Identify the corresponding sensor card associated with the lane you will be verifying.
2. Remove all other sensor cards from Input File(s) except for the one you will be verifying.
3. Check that LEDs turn on when vehicles pass over the loops.  
[Note: This may require two people to verify. One person to indicate when vehicles are passing over the loops in the lane, while the other person verifies that the LEDs on the sensor cards for that lane activates].
4. If the sensor card does not detect when the vehicle crosses the loop, check the DLC termination to make sure it is not terminated to another lane. Make corrections as required.  
If DLC is correctly terminated, then replace the sensor card with a new sensor card.  
If the lane still does not detect traffic, then document in "Notes" section.
5. Repeat the above for all lanes.

All discrepancies in the field, and any corrective actions taken should be documented in the "Notes" section.

##### PeMS Verification:

The purpose is to verify that PeMS is accurately representing the lanes at each location.

1. Using Laptop, connect to PeMS website [<https://pems.eecs.berkeley.edu/>].
2. Select "District 4" from the map.
3. Select "Freeways".
4. Select Freeway "# VDSs" from "Detection" column.
5. Select "Detector Health" and choose "Lanes".
6. Select the "VDS" number for the location.
7. Select "Detector Health" and choose "Raw Data".
8. Choose a "Lane", change "From" and "To" dates & times to current dates & times then select "Draw Plot".
9. If the loops & detector card are operational, PeMS will display the corresponding lane's activity, within 30 sec.
10. Remove the corresponding lane's detector card, PeMS should display no vehicle detection  
[Zero for Flow (# of Veh/30 Sec)].
11. If possible, correct the lane, DLC termination and/or detector card problems.
12. Repeat the above for all lanes.

All discrepancies between PeMS and the field should be documented in the "Notes" section.

## II. DURING FIELD VISIT

### D. ENTERING DATA INTO TEMS DATABASE

Refer to Appendix C ["TEMS Software Design V0.2 Edited"] if needed to determine how to connect, and input & correct fields in the TEMS Database.

**When entering information/data into database, make sure you are in a nearby safe location.**

#### Use the following naming convention:

1. All letters shall be capital. Limit the length of name to 24 characters.
2. Freeway direction and route shall be shown first. Ex. S880.  
Freeway direction is defined as the freeway side the equipment is located.
3. Nearest crossroad shall be referenced next. Prefer use same name on freeway sign.  
Always reference the crossroad ahead of the equipment.  
Ex. If travel north on 880 from A to B and equipment is in between A and B,  
Name the equipment as "N880 NOF B".
4. Relative indicator is limited to AT, SOF, NOF, EOF and WOF.  
No distant measurement is needed.
5. Abbreviate teams as follows:  
ST-street, BL-boulevard, RD-road, WY-Way  
PKWY-parkway, LN-Lane, IC-Interchange  
OC-Over crossing, UC-Under crossing  
N-North, W-West, S-South, E-East.  
Example: North of xxx ==> NOF XXX.

#### Notes:

1. Every equipment in TEMS needs to be associated with a location.
2. Every location in TEMS needs to be associated with a cabinet.
3. To add a location you will be asked to input information about a cabinet.
4. To edit equipment at a location: select the location, choose equipment, and edit required fields.
5. Some of the TEMS Database fields for different equipment have the same values that need to be re-entered again for every equipment.

### III. AFTER FIELD VISIT

<b>A. REVIEW TEMS INPUTTED DATA</b>	Review TEMS Database field entries for accuracy. If the TEMS data was not updated in the field, enter the information collected from the field into the Database.
<b>B. REVIEW PEMS DATA</b>	Check PeMS to determine the status of the location after the field visit. Confirm its operation with TMC, if needed.
<b>C. FILING</b>	<p><b><u>Documents:</u></b> File the field visit documents with the copy of the Plans/As Built in the existing folders. If folder does not exists, create a folder with a label indicating the direction, county, route, post mile and physical description of the location visited.</p> <p><b><u>Photos:</u></b> Save the digital photos on a DVD/CD and assign photo numbers using the following format: Cabinet ID number, dot and number 1, 2, 3, 4 or 5 (1 for first photo, 2 for second photo, 3 for third photo, 4 for fourth photo &amp; 5 for fifth photo). Example: DT953.1, DT953.2, DT953.3, DT953.4 &amp; DT953.5.</p> <p><b>In order to avoid any confusion, delete the pictures from camera's memory card before visiting the next location.</b></p>
<b>D. REPORTING</b>	Report all findings and note the steps needed to be taken to correct any remaining problems.

## **APPENDIX A**

### **TOS "Field Inventory Data" Forms**

# VDS Field Inventory Data

Name: <input style="width: 150px;" type="text"/>		Date of Inventory: <input style="width: 100px;" type="text"/>		VDS	MVDS	CCTV	EMS	CMS	HAR	OTHER:
--	--	---	--	-----	------	------	-----	-----	-----	--------

  

LOCATION / CABINET & RELATED EQUIPMENT											
Direction: <input style="width: 50px;" type="text"/>	County: <input style="width: 50px;" type="text"/>	Route: <input style="width: 50px;" type="text"/>	File PM: <input style="width: 50px;" type="text"/>	Power: <input style="width: 50px;" type="text"/>	YES NO						
Cabinet ID: <input style="width: 50px;" type="text"/>	Model: <input style="width: 50px;" type="text"/>	AC Outlet Strip: <input style="width: 50px;" type="text"/>	Aux. Output File: <input style="width: 50px;" type="text"/>	Service Transformer: <input style="width: 50px;" type="text"/>	YES NO						
Manufacturer: <input style="width: 50px;" type="text"/>	Date: <input style="width: 50px;" type="text"/>	No. of Sensor Cards: <input style="width: 50px;" type="text"/>	Lock key type: <input style="width: 50px;" type="text"/>	#2 Best Rex Other: <input style="width: 50px;" type="text"/>	YES NO						
Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Brand: <input style="width: 50px;" type="text"/>	Cab. Status: <input style="width: 50px;" type="text"/>	Cross Street Description & City: <input style="width: 150px;" type="text"/>	YES NO						

  

CONTROLLER & RELATED EQUIPMENT											
Brand: <input style="width: 50px;" type="text"/>	Model: <input style="width: 50px;" type="text"/>	Serial No.: <input style="width: 50px;" type="text"/>	Drop No.: <input style="width: 50px;" type="text"/>	C2 Harness: <input style="width: 50px;" type="text"/>	YES NO						
Eprom Vrs.: <input style="width: 50px;" type="text"/>	Conf. Code: <input style="width: 50px;" type="text"/>	Group No.: <input style="width: 50px;" type="text"/>	Controller Status: <input style="width: 50px;" type="text"/>								

  

POWER SERVICE CABINET & RELATED EQUIPMENT											
Service Cab. ID: <input style="width: 50px;" type="text"/>	Brand: <input style="width: 50px;" type="text"/>	Cab. Type: <input style="width: 50px;" type="text"/>	Services: <input style="width: 50px;" type="text"/>	Power: <input style="width: 50px;" type="text"/>	TMS RMS						
Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	T of U Meter: <input style="width: 50px;" type="text"/>	Meter No.: <input style="width: 50px;" type="text"/>	Lock Type: <input style="width: 50px;" type="text"/>	Load Condui						
Service Voltage: <input style="width: 50px;" type="text"/>	Utility Company: <input style="width: 50px;" type="text"/>	No. Spare Single Breaker & Position: <input style="width: 50px;" type="text"/>	Main Breaker: <input style="width: 50px;" type="text"/>	Service Cab. Status: <input style="width: 50px;" type="text"/>	100A 200A 400A						
Cross Street Description & City: <input style="width: 150px;" type="text"/>											

  

MAIN LINE, RAMP & RELATED EQUIPMENT											
Number Main Lanes: <input style="width: 50px;" type="text"/>		Number Ramp Lanes: <input style="width: 50px;" type="text"/>		Number Metered Lanes: <input style="width: 50px;" type="text"/>		Number of Signal Heads: <input style="width: 50px;" type="text"/>					
Detector Technology Type: <input style="width: 50px;" type="text"/>		Other: <input style="width: 50px;" type="text"/>		Dual: <input style="width: 50px;" type="text"/>		Single: <input style="width: 50px;" type="text"/>					
Pull Box ML-MS		Pull Box ML-OS		Pull Box D-P (Cab. Side Ramp)		Pull Box D-P (Non Cab. Side Ramp)		Pull Box Q (Cab. Side Ramp)		Pull Box Q (Non Cab. Side Ramp)	
Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>	Latitude: <input style="width: 50px;" type="text"/>	Longitude: <input style="width: 50px;" type="text"/>
Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>	Accuracy: <input style="width: 50px;" type="text"/>
Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>	Elev.: <input style="width: 50px;" type="text"/>
PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>	PM: <input style="width: 50px;" type="text"/>
Comments: <input style="width: 150px;" type="text"/>											

  

COMMUNICATION & RELATED EQUIPMENT											
Modem Brand: <input style="width: 50px;" type="text"/>	Airlink: <input style="width: 50px;" type="text"/>	Modem Name: <input style="width: 50px;" type="text"/>	Modem Model: <input style="width: 50px;" type="text"/>	GPRS: <input style="width: 50px;" type="text"/>	Static IP: <input style="width: 50px;" type="text"/>	YES NO					
Phone No.: <input style="width: 50px;" type="text"/>	SIM No.: <input style="width: 50px;" type="text"/>	Serial No.: <input style="width: 50px;" type="text"/>	IMEI No.: <input style="width: 50px;" type="text"/>	Service Provider: <input style="width: 50px;" type="text"/>	Billing Number: <input style="width: 50px;" type="text"/>	Modem Status: <input style="width: 50px;" type="text"/>					
F'ware Vrs.: <input style="width: 50px;" type="text"/>	Dual Band: <input style="width: 50px;" type="text"/>	Single Band: <input style="width: 50px;" type="text"/>	AT&T: <input style="width: 50px;" type="text"/>								
Antenna Type: <input style="width: 50px;" type="text"/>	Booster: <input style="width: 50px;" type="text"/>										
Comments: <input style="width: 150px;" type="text"/>											

Notes:



## **APPENDIX B**

### **"Input File Card Assignment" Forms**

## CONFIGURATION PRIORITY TABLE

		Old	N or W	N or W	S or E	S or E			Comm.	Usage
Code	Cabinet	Config.	m/l	Connect	m/l	Connect	Ramps		Media	Priority
47	331	SW	7	*	7	*	0		wire	
4B	334(mod)	loc 9	4	*	4	*	0		wire	
4D	334B	none	7	*	7	*	0		non-wire	1
4E	334B	none	5	*	5	*	8		non-wire	2
53	334	none	8	*	0	*	12		non-wire	7
63	334	I	6	*	6	*	4		wire	4
65	334	J	5	*	5	*	8		wire	3
66	334	L	5	*	5	*	8		wire	6
69	334	M	7	*	7	*	0		wire	1
6A	334	none	8	*	6	*	0		wire	2
6C	334	none	8	*	4	*	4		wire	5
C3	334	I	6	*	6	*	4		non-wire	4
C5	334	J	5	*	5	*	8		non-wire	3
C6	334	L	5	*	5	*	8		non-wire	6
C9	334	M	7	*	7	*	0		non-wire	1
CA	334	none	8	*	6	*	0		non-wire	2
CC	334	none	8	*	4	*	4		non-wire	5
		Old	Metered	Opposite		Metered	Bus	Lower Hea	Comm.	Usage
Code	Cabinet	Config	Side	Side	Ramps	Lanes	Priority	Sections	Media	Priority
5C	334	none	6	4	4	2	no	3- only	non-wire	7
93	334	N	5	5	4	2	no	2- or 3-	wire	2
95	334	O	6	0	8	4	no	2- or 3-	wire	3
96	334	P	4	4	6	3	no	2- or 3-	wire	4
99	334	N_bus	5	5	3	1	yes	2- or 3-	wire	5
9A	334	P_bus	4	4	5	2	yes	2- or 3-	wire	6
9C	334	N_ems	5	5	4	2	no	3- only	wire	1
A3	334	N	5	5	4	2	no	2- or 3-	non-wire	2
A5	334	O	6	0	8	4	no	2- or 3-	non-wire	3
A6	334	P	4	4	6	3	no	2- or 3-	non-wire	4
A9	334	N_bus	5	5	3	1	yes	2- or 3-	non-wire	5
AA	334	P_bus	4	4	5	2	yes	2- or 3-	non-wire	6
AC	334	N_ems	5	5	4	2	no	3- only	non-wire	1

INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

MS OS D

CONFIG. CODE(S)	5C O	Controller Cabinet Type: 334									
DATE	Cabinet ID:										
Location Description	Location ID:										
ENGINEER											
Names											

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	MS 1-1	MS 2-1	MS 3-1	MS 4-1	MS 5-1	MS 6-1	OS 1-1	OS 2-1	OS 3-1	OS 4-1	D 1	Q 1	D 2	Q 2
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	MS 1-2	MS 2-2	MS 3-2	MS 4-2	MS 5-2	MS 6-2	OS 1-2	OS 2-2	OS 3-2	OS 4-2	P 1	F 1	P 2	F 2
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:	



INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

MS OS D

CONFIG. CODE(S)	9A	<input type="radio"/>	AA	<input type="radio"/>	Controller Cabinet Type: 334	
DATE				Cabinet ID:		
Location Description	Location ID:					
ENGINEER						
Names						

MS	OS	D

P	Q	F

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	MS 1-1	MS 2-1	MS 3-1	MS 4-1	OS 1-1	OS 2-1	OS 3-1	OS 4-1	D 1	Q 1	D 2	Q 2	bus	
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	MS 1-2	MS 2-2	MS 3-2	MS 4-2	OS 1-2	OS 2-2	OS 3-2	OS 4-2	P 1	F 1	P 2	F 2		F 3
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:	

INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

MS OS D

CONFIG. CODE(S)	96	<input type="radio"/>	A6	<input type="radio"/>	Controller Cabinet Type: 334	
DATE			Location ID:		Cabinet ID:	
Location Description						
ENGINEER						
Names						

MS	OS	D

P	Q	F

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	MS 1-1	MS 2-1	MS 3-1	MS 4-1	OS 1-1	OS 2-1	OS 3-1	OS 4-1	D 1	Q 1	D 2	Q 2	D 3	Q 3
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	MS 1-2	MS 2-2	MS 3-2	MS 4-2	OS 1-2	OS 2-2	OS 3-2	OS 4-2	P 1	F 1	P 2	F 2	P 3	F 3
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:	

INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

MS OS D

CONFIG. CODE(S)	95	<input type="radio"/>	A5	<input type="radio"/>	Controller Cabinet Type: 334	
DATE					Location ID:	Cabinet ID:
Location Description						
ENGINEER						
Names						

MS	OS	D
	NA	

P	Q	F

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	MS 1-1	MS 2-1	MS 3-1	MS 4-1	MS 5-1	MS 6-1	D 1	Q 1	D 2	Q 2	D 3	Q 3	D 4	Q 4
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	MS 1-2	MS 2-2	MS 3-2	MS 4-2	MS 5-2	MS 6-2	P 1	F 1	P 2	F 2	P 3	F 3	P 4	F 4
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:	

## INPUT FILE CARD ASSIGNMENT

**NO. OF DLCs**

MS OS D


Cabinet ID:

Location ID:	Cabinet ID:

CONFIG. CODE(S)
DATE
Location Description
ENGINEER Names

Location ID:	Cabinet ID:

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[illegible]

**COMMENTS:**




INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

N W S E D

CONFIG. CODE(S)	6C	O	CC	O	Controller Cabinet Type: 334
DATE					Cabinet ID:
Location Description					
ENGINEER					
Names					

P	Q	F
	NA	

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	N W 1-1	N W 2-1	N W 3-1	N W 4-1	N W 5-1	N W 6-1	N W 7-1	N W 8-1	S E 1-1	S E 2-1	S E 3-1	S E 4-1		
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	N W 1-2	N W 2-2	N W 3-2	N W 4-2	N W 5-2	N W 6-2	N W 7-2	N W 8-2	S E 1-2	S E 2-2	S E 3-2	S E 4-2		
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:





INPUT FILE CARD ASSIGNMENT

NO. OF DLCS

N

W

S

E

D

NA

NA

P

Q

F

NA

CONFIG. CODE(S)

53

Controller Cabinet Type: 334

DATE

Location ID:

Location Description

ENGINEER

Names

Input File Slot UPPER	1 U	2 U	3 U	4 U	5 U	6 U	7 U	8 U	9 U	10 U	11 U	12 U	13 U	14 U
Terminal Block Pin No.	1 - 2	6 - 7	11 - 12	16 - 17	21 - 22	26 - 27	31 - 32	36 - 37	41 - 42	46 - 47	51 - 52	56 - 57	61 - 62	66 - 67
LOOP assignments	N W 1-1	N W 2-1	N W 3-1	N W 4-1	N W 5-1	N W 6-1	N W 7-1	N W 8-1						
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Input File Slot LOWER	1 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L	10 L	11 L	12 L	13 L	14 L
Terminal Block Pin No.	4 - 5	9 - 10	14 - 15	19 - 20	24 - 25	29 - 30	34 - 35	39 - 40	44 - 45	49 - 50	54 - 55	59 - 60	64 - 65	69 - 70
LOOP assignments	N W 1-2	N W 2-2	N W 3-2	N W 4-2	N W 5-2	N W 6-2	N W 7-2	N W 8-2						
INDUCTANCE														
RESISTANCE														
q														
MEG														
Good or Bad	G	B	G	B	G	B	G	B	G	B	G	B	G	B
Card Model														
Card Brand														

COMMENTS:

## INPUT FILE CARD ASSIGNMENT

**NO. OF DLCS**

**N W S E D**

NA		
----	--	--

	NA	
--	----	--

CONFIG. CODE(S)	4E	O	TYPE:	334B	LOOPS	O	MAGNETOMETER	O
DATE				Cabinet ID:		Location ID:		
Location Description								
ENGINEER Names								

[illegible]

COMMENTS:

## **APPENDIX C**

**"TEMS Software Design V0.2 Edited"  
(PROVIDED AFTER AWARD)**

## **APPENDIX D**

### **Cabinet Locations**

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
1	Ala	080	W	2.66	DT647	80/880 W	239	3	53	14
2	Ala	080	W	3.64	DT315	1000' W of Powell	236	6	53	16
3	SCI	101	N	48.69	E37FZ	Shoreline Blvd: rm-n-loop	211	5	53	12
4	CC	680	S	17.50	DT344	Contra Costa Blvd: rm-s-diag	270	3	53	10
5	SF	101	S	3.30	DT232	25th st ped o/c	258	6	4e	16
6	SF	101	S	4.68	DT237	Utah St / Alameda St	265	9	4e	8
7	SF	101	S	5.14	DT242	13th / South Van Ness	267	3	4e	8
8	SF	280	N	6.52	DT249	18th St / Pennsylvania	258	4	4e	12
9	Ala	580	W	44.07	DT336	Chetwood St & Santa Clara	201	8	4e	16
10	Ala	580	W	44.68	DT337	Kempton st/ Fairmont St	244	6	4e	16
11	Ala	580	W	45.30	DT340	MLK Jr. Way	228	9	4e	12
12	Ala	580	E	45.31	DT343	West st./35th st	250	8	4e	12
13	Ala	880	S	31.66	DT407	Washington St	264	3	4e	22
14	Ala	980	W	0.19	DT410	Brush St	264	5	4e	10
15	Ala	980	E	0.70	DT411	14TH ST OC	277	5	4e	12
16	Ala	980	E	1.58	DT414	28th St / Northgate	228	7	4e	10
17	Ala	980	E	1.83	DT417	27th st: on-e-diag	248	9	4e	22
18	Ala	024	W	2.06	DT772	E of MacArthur / Apgar St./ MLK	281	9	4e	22
19	Ala	024	E	2.22	DT675	42nd and Dover / 51st Street Off Ramp	262	3	4e	24
20	Ala	024	W	2.32	DT671	42nd st and Martin Luther King	258	8	4e	24
21	Ala	024	E	2.62	DT068	47th and Dover / 51st Street off Ramp	269	8	4e	24
22	Ala	080	E	2.32	DT100	West Grand Ave & Maritime St. off ramp Dia	215	3	c3	16
23	Ala	080	W	7.26	DT640	200' W of Buchanan	232	4	c3	24
24	CC	080	E	2.05	DT166	E of Cutting Blvd	233	2	c3	22
25	Sol	080	W	4.32	DT062	300' W of Redwood pkwy	440	1	c3	14
26	SM	101	S	18.94	DT287	SFIA on-s-fly (lower roadway)	287	2	c3	22
27	SM	101	S	19.SF	DT289	1200' N of SFIA	287	4	c3	22



## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
28	SM	101	S	19.75	DT290	3200' S of San Bruno ave OC	287	5	c3	22
29	SF	101	S	0.65		3rd St. off ramp	261	11	c3	18
30	Mrn	101	N	10.04	DT798	SB off-ramp to Francisco Blvd West	318	3	c3	20
31	SCI	280	S	4.70	DT195	Bascom & Leland	282	1	c3	16
32	Ala	680	N	19.83	DT326	1200' S of 580	288	1	c3	22
33	Ala	680	N	20.14	DT153	EB 580 rm-n-diag	287	11	c3	20
34	CC	680	N	13.68	DT542	Newell ave / city street	280	7	c3	22
35	CC	680	S	13.94	DT273	Olympic Blvd: on-s-loop	252	2	c3	14
36	CC	680	N	15.46	DT546	N. Main St. off-n-loop (nb main line loops o	268	8	c3	14
37	CC	680	S	17.55		Contra Costa Blvd.	237	3	c3	22
38	CC	680	N	17.82	DT741	Monument Blvd : rm-n-diag	236	3	c3	22
39	CC	680	S	18.14	DT356	Gregory LN: off-s-diag	251	6	c3	18
40	Ala	580	E	20.60	DT483	600ft E of 680	240	8	c3	20
41	Ala	080	E	2.62	DT651	80 / 580 split	235	8	c5	14
42	Ala	080	E	4.00	DT091	Powell st: rm-e-diag	000	8	c5	26
43	Ala	080	W	4.00		Powell st: rm-w-loop	000	9	c5	26
44	Ala	080	E	4.60		Ashby ave: off-e-diag	000	7	c5	20
45	Ala	080	E	4.82		Ashby ave: on-e-diag	000	6	c5	20
46	Ala	080	E	5.09		S aquatic park	000	5	c5	20
47	Ala	080	E	5.58		N aquatic park	000	4	c5	20
48	Ala	080	W	5.63	DT321	university ave: on-w-loop	000	3	c5	20
49	Ala	080	E	5.82	DT678	university ave: on-e-diag	000	2	c5	20
50	Ala	080	E	6.14	DT322	N of university ave	000	1	c5	20
51	Ala	080	W	7.70	E33EA	Cleavland Ave off ramp	233	1	c5	24
52	CC	080	E	4.06	DT464	600' W of San Pablo Dam Rd	232	8	c5	18
53	CC	080	E	5.21	DT466	W of El Portal Drive	435	10	c5	16
54	CC	080	E	5.69	DT467	W of Hilltop Dr. off ramp	236	9	c5	20

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
55	CC	080	W	6.27	DT169	1000' W of Richmond Pkwy	236	10	c5	16
56	CC	080	W	7.29	DT468	1000' W of Appian Way	233	10	c5	20
57	CC	080	E	8.59	DT469	Pinole Valley rd on ramp diag	236	11	c5	16
58	CC	080	E	9.20	DT470	1200' E of Pinole Valley Rd	232	9	c5	18
59	CC	080	W	9.95	DT520	Sycamore Ave.& Rte 4	232	11	c5	14
60	CC	080	E	10.30	DT020	Rte EB4: on-e-	252	11	c5	14
61	CC	080	E	11.78	DT022	Willow Ave: on-e-	254	5	c5	22
62	CC	080	E	12.91	DT026	Cummings Skyway on-e-diag	260	3	c5	14
63	Sol	080	W	1.09	DT055	Sonoma Blvd / Rte 29: on-w-diag	263	9	c5	12
64	Sol	080	E	1.75	DT056	Magazine St: on-e-	261	6	c5	12
65	Sol	080	W	2.73	DT059	W of Georgia St.	401	3	c5	12
66	Sol	080	W	3.40	DT060	Tennessee St. (East) off ramp WB	185	4	c5	12
67	Sol	080	W	3.98	DT061	Between Redwood Rd / Tennesse St	401	5	c5	12
68	Sol	080	W	4.52	DT063	1000' E of Redwood parkway	404	6	c5	22
69	Sol	080	E	8.17	DT143	American Canyon Rd.	215	9	c5	16
70	Sol	080	E	13.19	DT778	1200' W of Suisun Valley Rd off ramp	293	7	c5	12
71	Sol	080	W	17.49	DT146	Oliver Rd.	215	10	c5	16
72	Sol	080	E	23.96	DT433	East of Pleasant Valley OC	274	2	c5	16
73	SCI	101	S	6.00	DT654	300' S of Route 152	220	9	c5	22
74	SCI	101	N	6.05	DT655	EB152 to NB 101 loop	220	10	c5	22
75	SCI	101	N	SF.49	DT099	Story Rd. rm-n-diag	296	6	c5	14
76	SCI	101	S	SF.5	DT095	S of story Rd. off ramp	296	5	c5	14
77	SCI	101	N	38.80	DT809	Old Bayshore Highway on-n-diag	419	7	c5	20
78	SCI	101	S	47.65	DT582	Ellis st: off-s-diag	409	2	c5	16
79	SCI	101	N	52.16	DT080	100' N of Embarcadero rd	408	9	c5	16
80	SM	101	N	1.89	DT042	S of Willow Rd inside on loop	246	3	c5	24
81	SM	101	S	1.97	DT043	N of Willow Rd inside on loop	247	5	c5	24

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
82	SM	101	N	5.78	DT097	Seaport Blvd: rm-n- diag	265	1	c5	24
83	SM	101	N	8.SF	DT134	Holly St: on-s-coll	236	1	c5	16
84	SM	101	S	8.41	DT135	Holly St: off-s-diag	258	11	c5	24
85	SM	101	N	11.40	DT263	Hillsdale Blvd off-s-diag	253	4	c5	16
86	SM	101	S	11.62	DT141	S of 19th Ave/ rt 92- on ramp-dia	254	8	c5	18
87	SM	101	S	11.65	DT264	N of Barel Creek	256	2	c5	18
88	SM	101	N	13.92	DT271	dore ave: off-n-diag	402	8	c5	16
89	SM	101	S	14.Scl	DT272	E Poplar Ave sb diag	425	4	c5	16
90	SM	101	N	14.82	DT274	Pennisula Ave NB on ramp Diag	444	5	c5	16
91	SM	101	N	15.98	DT277	Anza Blvd	445	3	c5	16
92	SM	101	S	16.45	DT278	Broadway: on-s-	426	5	c5	16
93	SM	101	N	16.64	DT279	Broadway: on-n-	400	1	c5	16
94	SM	101	N	18.03	DT285	500' N of Millbrae Ave OC	286	5	c5	26
95	SM	101	S	20.00	DT291	SFIA: off-s-diag	287	6	c5	16
96	SM	101	N	20.53	DT293	300' N of San Bruno OC	268	2	c5	16
97	SM	101	S	21.05	DT295	N of 101 / 380 interchange	262	10	c5	16
98	SM	101	N	21.41	DT296	Airport Blvd on-n-hook	259	1	c5	18
99	SM	101	S	21.80	DT297	S Airport Blvd off ramp	287	7	c5	18
100	SM	101	N	23.50	DT299	S of Sierra point Parkway/Marina blvd	247	2	c5	16
101	SM	101	N	23.89	DT015	S Sierra Point Parkway: on-n-diag	444	11	c5	16
102	SM	101	S	25.07	DT302	Sierra Point Parkway on ramp	253	8	c5	16
103	SF	101	S	1.10	DT768	Paul ave: off-s-loop	250	1	c5	20
104	Mrn	101	S	8.35	DT552	N of Greenbae Ped crossing	258	9	c5	24
105	Mrn	101	N	15.85	DT555	N of Miller Creek rd	237	5	c5	16
106	Mrn	101	S	16.30	DTB46	2000' S of Pacheco Creek OC	244	7	c5	20
107	Mrn	101	S	16.72	DT557	N of Pacheco Creek OC	246	2	c5	24
108	Mrn	101	N	16.77	DTB45	N of Pacheco Creek OC	237	4	c5	24

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
109	Mrn	101	S	17.79	DT560	N of Posada Del sol	266	5	c5	16
110	Mrn	101	S	19.06	DT565	S of 37/101 interchange	249	11	c5	14
111	Mrn	101	N	19.20	DT028	N of 37 / 101 interchange	261	7	c5	14
112	SCI	280	N	0.18	DT906	McLaughlin Ave: on-n-loop	279	8	c5	8
113	SCI	280	S	0.56	DT588	N. of McLaughlin Ave.	292	7	c5	24
114	SCI	280	S	1.84	DT803	N First Street on-s-loop	267	8	c5	24
115	SCI	280	N	2.87	DT880	S of bird ave diag. Off ramp	294	9	c5	18
116	SCI	280	S	3.97	DT605	400' S of Meridian Ave	284	4	c5	16
117	SCI	280	S	4.47	DT881	Leigh Ave OC	294	10	c5	20
118	SM	280	N	10.60	DT916	NB 280 to EB 92 280/92 JCT	259	8	c5	16
119	SM	280	N	22.00	DT307	SOF Avalon Dr off ramp	282	2	c5	24
120	SF	280	N	0.82		Sickles Ave UC	419	1	c5	16
121	SF	280	S	1.65	DT005	Geneva Ave on-s-diag	443	5	c5	24
122	SF	280	S	2.64	DT008	south of Monterey	245	3	c5	16
123	SF	280	N	3.44	DT009	S of St. Mary's Ped Xing	255	11	c5	16
124	SF	280	S	3.87	DT010	Alemanly Blvd	247	11	c5	16
125	CC	680	S	2.77	DT501	Bollinger Canyon Rd: on-s-diag	256	8	c5	10
126	CC	680	S	2.98	DT503	Bollinger Canyon Rd: on-s-loop	252	3	c5	12
127	CC	680	N	4.41	DT250	crow canyon rd: on-n-diag	248	7	c5	16
128	CC	680	N	7.51	DT519	Diablo rd: on-s-diag	266	10	c5	10
129	CC	680	N	7.59	DT329	Diablo rd: on-n-diag	280	9	c5	16
130	CC	680	S	8.10	DT298	S of El Cerro Blvd	275	8	c5	24
131	CC	680	N	8.44	DT523	el cerro blvd: on-n-diag	275	9	c5	16
132	CC	680	N	8.81	DT525	el Pintado way: on-n-diag	253	1	c5	16
133	CC	680	S	10.25	DT371	stone valley rd: on-s-diag	276	1	c5	16
134	CC	680	N	10.49	DT531	stone valley rd: on-n-diag	290	5	c5	16
135	CC	680	S	11.22	DT265	Livonia rd: on-s-diag	256	7	c5	16

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
136	CC	680	N	11.50	DT534	Livonia rd: on-n-diag	255	2	c5	16
137	CC	680	N	13.00	DT570	1000' N of Rudgear rd onramp diag	259	9	c5	16
138	CC	680	S	14.26	DT544	Camino Diablo Blvd & HWY 24 WB on ramp	274	8	c5	12
139	CC	680	N	14.53		Oakland Blvd & Almond Ave	278	11	c5	16
140	CC	680	S	14.89	DT254	Ygnacio Valley Rd	280	10	c5	16
141	CC	680	S	15.93	DT547	400' N of S.O.S Dr.	245	2	c5	28
142	CC	680	N	16.40	DT549	treat blvd / Geary rd	403	11	c5	16
143	CC	680	S	19.00	DT186	Willow Pass Rd on-s-diag	240	5	c5	16
144	CC	680	N	19.09	DT853	Willow Pass: on-n-diag	245	8	c5	12
145	CC	680	S	19.13	DT184	Willow Pass Rd on-s-loop	204	9	c5	12
146	CC	680	S	21.07	DT841	EB 4 on-s-diag	253	9	c5	24
147	CC	680	N	22.23	DT294	Pacheco Blvd Off ramp	412	2	c5	16
148	CC	680	S	22.43	DT905	Pacheco Blvd on ramp	432	6	c5	16
149	CC	680	N	22.70	DT284	Arthur Rd on-n-diag	407	7	c5	16
150	Sol	680	S	0.83	DT203	1500' S of Park rd @ Bayshore rd	445	5	c5	16
151	Sol	680	S	1.46	DT266	Industrial rd / Park Rd	244	3	c5	8
152	Sol	680	S	3.03	DT846	Lake Herman Rd	243	10	c5	8
153	Sol	680	S	5.06	DT773	Parish Rd	245	7	c5	8
154	Sol	680	N	7.07	DT576	marshview rd	276	3	c5	8
155	Sol	680	N	9.96	DT776	Gold Hill Rd OC	246	7	c5	8
156	Ala	580	E	30.15	DT179	Strobridge Ave on-e-diag	230	9	c5	20
157	Ala	580	E	38.89	DT101	Seminary Ave	250	10	c5	16
158	Ala	580	E	40.11	DT105	EB High St. off ramp	252	10	c5	16
159	Ala	580	W	40.80	DT334	35th ave: on-w-diag	316	2	c5	16
160	Ala	580	E	41.51	DT106	Fruitvale Ave: off-e-diag	254	4	c5	16
161	Ala	580	E	42.11	DT107	Beaumont Ave	255	6	c5	16
162	Ala	580	W	42.76	DT108	500' W of Park Blvd	257	2	c5	16

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
163	Ala	580	E	43.36	DT109	500' E of Lakeshore Ave	258	10	c5	16
164	Ala	580	E	43.70	DT635	Grand Ave: off-e-diag	201	9	c5	16
165	Ala	580	M	47.49	DT639	580 EB	232	10	c5	8
166	CC	580	E	1.40	DT118	Erlandson St on ramp	261	4	c5	12
167	CC	580	W	1.98	DT119	Regatta Blvd: on-w-	254	7	c5	12
168	CC	580	W	2.31	DT121	Marina Bay Parkway (S 23rd St)	255	10	c5	12
169	CC	580	E	3.46	DT003	Harbour Way on ramp	257	5	c5	22
170	CC	580	W	3.95	DT122	end of Cutting Blvd off ramp	259	3	c5	22
171	CC	580	E	4.51	DT123	200' E of canal blvd	264	10	c5	12
172	SCr	017	N	5.45	DT360	Granite Creek Rd / Santa's Village Rd	288	4	c5	8
173	Ala	880	N	15.54	DT390	Tennyson Rd. off-n-diag	283	4	c5	10
174	Ala	880	S	16.78	DT393	SR 92: on-s-coll	267	1	c5	10
175	Ala	880	S	17.52	DT670	Winton ave: on-s-coll/diag	254	2	c5	12
176	Ala	880	N	23.36	DT917	Davis st off-n-diag	254	9	c5	18
177	Ala	880	N	32.30	DT808	Adeline st / Magnolia on ramp	408	3	c5	16
178	Ala	880	S	32.74	DTA79	Union Street off Ramp	289	7	c5	24
179	Ala	880	N	SF	DT357	2000' N of 7th street / Grand Ave	258	5	c5	16
180	Ala	880	N	35.10	DT081	34th & Wood St.	283	3	c5	8
181	Ala	880	N	35.20	DT623	Maritime on-w-diag	252	1	c5	16
182	Ala	980	W	0.98	DT908	14/18th st. off ramp	264	6	c5	14
183	Ala	024	W	2.63	DT616	47th St and Martin Luther King	260	11	c5	24
184	CC	024	W	0.59	DT426	Fish Ranch rd: on-w-loop	270	6	c5	16
185	CC	024	W	1.11	DT427	Gateway Blvd: on-w-diag	270	8	c5	24
186	CC	024	E	2.25		Camino Pablo: off-e-diag	271	2	c5	24
187	CC	024	W	2.CC	DT431	Camino Pablo: on-w-coll/diag	271	3	c5	24
188	CC	024	E	2.66	DT430	Davis St: on-e-diag	271	5	c5	26
189	CC	024	E	3.70	DT436	Hidden Valley rd/ St. Stephens EB on-ramp	253	6	c5	24

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
190	CC	024	W	3.76	DT437	1900' E of St. Stephens Drive OC	271	10	c5	26
191	CC	024	E	4.05	DT438	1200' W of Acalanes Rd.	271	11	c5	24
192	CC	024	E	4.53	DT440	Acalanes Rd on-e-diag	274	9	c5	24
193	CC	024	E	6.12	DT447	Oak Hill Rd off diag	272	10	c5	24
194	CC	024	W	6.39	DT448	Laurel Drive on ramp	272	11	c5	24
195	CC	024	E	6.73	DT449	600' E of First St. UC	273	1	c5	24
196	CC	024	E	7.51	DT453	1300' W of Pleasant Hill Rd UC	273	5	c5	24
197	SCI	085	N	0.16		Bernal Rd. Between 101 and 85	426	1	c5	20
198	SCI	087	N	0.50	E37KE	SB 85 rm-n-conn	418	1	c5	20
199	SCI	087	S	4.90	E37DH	NB & SB 280 rm-s-conn	206	9	c5	10
200	SCI	237	W	2.65	DT591	WB 237 to NB101	279	3	c5	20
201	SCI	237	E	3.97	DT592	Fair Oaks Ave. off ramp	432	4	c5	12
202	SM	092	W	8.65	DT030	200' W of De Anza Blvd	406	3	c5	8
203	SM	092	W	8.70	DT083	100' E of De Anza Blvd	236	2	c5	20
204	SM	092	E	9.33	DT031	400' W of W Hillsdale Blvd	263	2	c5	8
205	SM	092	W	10.57	DT032	on Borel Ave E of Alameda De Las Pulgas	240	11	c5	8
206	SM	092	W	11.17	DT033	E of 82/92 interchange	255	9	c5	8
207	SM	092	W	11.51	DT034	W of Delaware St.	257	4	c5	8
208	SM	092	E	12.30	DT911	NB 101: e-conn (saw cut on structure)	270	7	c5	20
209	Ala	238	N	15.01	DTA95	e 14th st: rm-n-diag	276	6	c5	8
210	CC	004	E	12.58	DT744	SB 680 to EB 4 (loop)	412	8	c5	20
211	CC	004	W	12.76	DT747	NB 680: on-w-loop	285	6	c5	20
212	CC	004	W	14.49	DT162	In front of Memory Lane Cem	249	3	c5	16
213	CC	004	W	14.90		2800' W of Port Chicago HWY	445	6	c5	8
214	CC	004	W	15.47	DT164	Port Chicago Hwy: on-w-	249	6	c5	24
215	CC	004	W	23.02	DT626	1500' E of Railroad Ave	294	8	c5	24
216	Sol	780	W	7.Scl	DT057	100' W of 780/80 IC	408	5	c5	20

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
217	Sol	037	E	7.24	DT729	overpass: off-e-diag	298	10	c5	8
218	Sol	037	E	7.92	DT620	Wilson Ave on-e-diag	239	7	c5	8
219	Sol	037	E	8.24	DT621	1000' E of Wilson Ave on Ramp	239	8	c5	8
220	Sol	037	E	9.50	DT617	Sonoma Blvd E/B on Ramp	239	4	c5	8
221	Sol	037	W	9.55	DT618	Sonoma Blvd W/B on Ramp	239	5	c5	10
222	Sol	037	W	10.95	DT730	Marine World Pkwy: off-w-diag	299	1	c5	8
223	Mrn	037	E	13.11	DT725	Renaissance Rd: off-e-diag	298	6	c5	8
224	Mrn	037	E	13.80	DT726	Harbor Dr: on-e-hook	298	7	c5	8
225	CC	680	S	13.32		Newell ave	426	7	c6	26
226	CC	024	E	1.15	DT428	Gateway Blvd: on-e-diag	270	9	c6	16
227	CC	024	E	3.00	DT434	1650' W of St. Stephens Drive OC	271	6	c6	20
228	CC	024	W	3.39	DT435	1450' W of St. Stephens Drive OC	271	9	c6	20
229	CC	024	W	4.44	DT439	100' E of Acalanes rd UC	272	2	c6	20
230	CC	024	W	7.95	DT454	E of Pleasant Hill Rd. Loop on ramp	273	7	c6	16
231	SCI	280	N	2.85	DT883	200' S of Bird Ave	296	10	cc	20
232	Son	101	S	13.90	DT829	Rohnert Park Expwy on-s-loop	293	4	a5	20
233	Son	101	N	14.00	DT830	Rohnert Park Expwy: on-n-diag	293	5	a5	20
234	Son	101	N	18.44	DT934	Hearn Ave. Rm-n-diag	242	7	a5	22
235	Son	101	S	19.62	DT785	Hwy 101 and SB 12	317	1	a5	24
236	Son	101	S	19.70	DT787	WB 12: rm-s-	317	3	a5	22
237	Son	101	N	19.71	DT786	EB 12: rm-s-	317	2	a5	22
238	Son	101	S	13.77	DT828	Rohnert Park Expwy on-s-diag	293	3	ac	12
239	Son	101	N	14.98	DT930/ E20P8	Wilfred Ave. Rm-n-diag	242	9	ac	12
240	Son	101	S	14.99	DT937/ E20Q6	Wilfred Ave. Rm-s-diag	242	2	ac	12
241	Son	101	S	15.26	DT931	Laguna De Santa Rosa. Rm-s-diag	242	3	ac	14
242	Son	101	N	16.51	DT936/ E20P9	Todd Rd. Rm-n-diag	242	4	ac	14
243	Son	101	S	16.51	DT932/ E20Q4	Todd Rd. Rm-s-diag	242	5	ac	14



## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
244	Son	101	S	18.43	DT933/E20Q3	Hearn Ave. Rm-s-diag	242	6	ac	14
245	Son	101	S	18.90	DT939/E20QZ	Baker Ave. Rm-s-diag	242	8	ac	14
246	Son	101	N	18.95	DT935/E20Q1	Baker Ave. Rm-n-diag	242	1	ac	14
247	Son	101	S	20.07	DT788	Third St: rm-s-	317	4	ac	12
248	Son	101	N	20.SF	DT789	6th St: rm-n-	317	5	ac	12
249	Son	101	S	20.73	DT790	SB College Ave: rm-s-	317	6	ac	12
250	Son	101	N	20.85	DT791	NB College Ave: rm-n-loop	317	7	ac	12
251	Son	101	S	21.72	DT793	Steele Lane: rm-s-	317	9	ac	12
252	Nap	029	S	12.80	DT093	Trancas St: on-s-	205	9	ac	8
253	Nap	029	N	13.10	DT092	Trancas St: on-n-	205	8	ac	8
254	Sol	080	E	13.02	DT777	N/B 680 conn-e-diag	293	6	a5	24
255	Sol	080	W	27.55	E23E2	E. Monte Vista Ave W/B on ramp	296	8	a5	24
256	Sol	080	W	11.32	DT351	Red Top rd rm-w-diag	269	2	ac	16
257	Sol	080	E	11.40	DT807	Red Top rd rm-e-diag	269	3	ac	16
258	Sol	080	W	12.63	DT350	Green Valley rd rm-w-diag	269	4	ac	16
259	Sol	080	E	13.57	DT779	Suisun Valley Rd on-e-diag	293	8	ac	20
260	Sol	080	E	16.88	DT073	Magellan rm-e-diag	410	6	ac	16
261	Sol	080	W	17.09	DT074	Rockville rd: rm-w-diag	445	7	ac	16
262	Sol	080	E	17.38	DT075	West Texas St / Beck Rd rm-e-diag	272	3	ac	16
263	Sol	080	W	17.87	DT076	Travis Blvd rm-w-diag	273	8	ac	16
264	Sol	080	W	17.93	DT781	Travis Blvd rm-w- loop	269	5	ac	16
265	Sol	080	E	18.07	DT079	Travis Blvd rm-e-diag	274	6	ac	16
266	Sol	680	N	0.70	DT753	EB 780 rm-n-fly	226	3	ac	12
267	Sol	780	E	1.80	DT907	5th street on-e-diag	276	8	ac	10
268	Mrn	101	N	8.85	DT578	Sir Francis Drake Blvd rm-n-diag	237	7	a5	20
269	Mrn	101	S	9.96	DT796	Francisco Blvd West: rm-s-diag	318	1	a5	24
270	Mrn	101	N	9.97	DT797	500ft after the Richmond Brdg interchange	318	2	a5	24

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
271	Mrn	101	N	18.18	DT943	Ignacio Blvd. rm-n-diag	237	8	a5	26
272	Mrn	101	N	3.45	DT577	Donahue / Bridgeway rm-n-diag	237	6	ac	16
273	CC	004	W	32.04	E28YU	Laurel Rd. rm-w-diag	315	6	a5	20
274	CC	004	W	13.78	DT161	Arnold Industrial Pl rm-e-diag	247	4	a6	8
275	CC	004	E	15.75	DT795	Port Chicago Hwy rm-e-coll	230	1	ac	14
276	CC	004	W	16.77	DT863/ E28W7	Willow Pass rd / Evora rm-w-diag	285	1	ac	12
277	CC	004	E	17.12	DT864	Willow Pass rd rm-e-diag	230	8	ac	12
278	CC	004	E	18.73	DT867/ E28T3	Willow Pass Rd rm-e-loop (Bay Point)	430	7	ac	14
279	CC	004	W	18.81	DT866/ E28T2	Willow Pass Rd rm-w-loop (Bay Point)	230	5	ac	14
280	CC	004	W	18.85	DT865/ E28R3	Willow Pass Rd rm-w-diag (Bay Point)	230	3	ac	12
281	CC	004	E	18.96	DT878/ E28PO	Willow Pass Rd rm-e-diag (Bay Point)	230	2	ac	14
282	CC	004	E	20.06	DT159	Bailey Rd. rm-e-diag	247	7	ac	12
283	CC	004	W	20.26	DT160	Bailey Rd. rm-w-diag	430	4	ac	14
284	CC	004	W	22.59	E28X7	Railroad Ave: rm-w-diag	443	6	ac	16
285	CC	004	E	22.74	E28X4	Railroad Ave: rm-e-diag	294	7	ac	14
286	CC	004	W	30.93	E28YT	SB 160: rm-w-diag meter	315	3	ac	4
287	CC	004	E	32.03	E28YV	Laurel Rd. rm-e-loop	315	7	ac	12
288	CC	004	E	32.27	E28YW	Laurel Rd. rm-e-diag	315	8	ac	8
289	CC	004	W	33.32	E28YX	Lone tree way rm-w-diag	315	10	ac	6
290	CC	004	W	33.68	E28YY	Jeffery way rm-w-diag	316	10	ac	10
291	CC	080	E	6.57	DT170	Richmond Pkway rm-e-loop	233	6	a5	24
292	CC	080	W	1.56	DT462	Potrero Ave rm-w-diag	234	1	a6	16
293	CC	080	E	2.00	DT165	Cutting Blvd rm-e-loop	234	9	a6	16
294	CC	080	E	2.97	DT114	San Pablo Ave rm-e-diag	233	3	a6	16
295	CC	080	E	5.50	DT861	El Portal Dr rm-e-diag	232	1	a6	16
296	CC	080	W	5.94	DT869	Hilltop Dr. rm-w-diag	232	2	a6	16
297	CC	080	E	6.06	DT870	Hilltop rm-e-diag / rm-w-loop	231	11	a6	16

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
298	CC	080	W	6.61	DT171	Richmond Pkwy rm-w-loop	233	7	a6	20
299	CC	080	E	7.57	DT872	Appian Way rm-e-loop	234	5	a6	20
300	CC	080	E	7.58	DT873	Appian Way rm-e-diag	234	8	a6	16
301	CC	080	W	8.47	DT874	Pinole Valley Rd rm-w-diag	232	3	a6	16
302	CC	080	W	9.68	DT783	Sycamore rm-w-diag	234	2	a6	18
303	CC	080	W	0.27	DT461	Central Ave rm-w-diag	234	11	ac	16
304	CC	080	E	0.44	DT110	Central Ave rm-e-diag	233	9	ac	16
305	CC	080	W	0.91	DT112	Carlson Blvd	235	11	ac	16
306	CC	080	E	1.12	DT113	Carlson Ave rm-e-diag	234	10	ac	16
307	CC	080	W	2.73	DT463	Barrett Ave rm-w-diag	234	7	ac	16
308	CC	080	W	3.41	DTA11	Solano Ave: rm-w-diag	231	1	ac	16
309	CC	080	E	4.30	DT168	San Pablo Dam Rd. rm-e-diag	233	4	ac	16
310	CC	080	W	4.82	DT868	El portal Dr. rm-w-diag.	232	5	ac	16
311	CC	080	E	6.89	DT172	Richmond Pkwy rm-e-diag	233	8	ac	18
312	CC	080	W	10.60	DT021/ E33YP	Rodeo (Willow Ave) rm-w-diag	280	8	ac	16
313	CC	080	W	12.66	DT972	Cummings Skwy: on-w-diag	292	4	ac	14
314	CC	080	W	13.48	DT971	San Pablo Ave. on-w-diag	292	3	ac	14
315	CC	242	N	2.10	DT879	Solano Way rm-n-diag	231	6	a6	18
316	CC	242	S	0.77	DT805	Clayton rd rm-s-diag	277	9	ac	12
317	CC	242	N	1.46	DT174	Concord Ave rm-n-loop	231	7	ac	14
318	CC	242	N	1.47	DT175	Concord Ave: rm-n-diag	274	10	ac	16
319	CC	242	S	1.48	DT176	Concord Ave : rm-s-loop	274	11	ac	14
320	CC	242	S	2.10	DT173	Solano Way rm-s-diag	245	1	ac	8
321	CC	242	S	2.81	DT177	Olivera St OC (Reitz Ct) rm-s-loop	407	3	ac	10
322	CC	680	S	0.11		San Ramon Valley Blvd: rm-s-hook	316	1	a5	24
323	CC	680	N	0.13	DT584	Alcosta Blvd on-n-diag	275	1	a5	24
324	CC	680	S	4.19	DT682	Crow Canyon Rd. rm-s-loop	297	1	a5	24

## Appendix D Cabinet Location List

# of Location	County	Route	Direction	PM	Cabinet ID	Location Description	Group	Drop	Config. Code	approx. # of Detectors
325	CC	680	N	15.82	DT824	N. Main St. rm-n-diag	274	5	a5	16
326	CC	680	S	16.32	DT800	treat blvd: rm-s-diag	274	7	a5	14
327	CC	680	S	16.50	DT205	treat blvd / Geary rd: rm-s-loop	268	7	a5	16
328	CC	680	N	16.80	DT855	buskirk ave: rm-n-diag	408	11	a5	14
329	CC	680	S	17.58	DT740	Monument Blvd : rm-s-diag	234	6	a5	16
330	CC	680	N	2.90	DT504	Bollinger Canyon Rd. rm-n-diag	253	11	ac	16
331	CC	680	S	4.09	DT506	crow canyon rd: on-s-diag	244	2	ac	16
332	CC	680	N	4.10	DT508	Crow Canyon rd rm-n-loop	286	7	ac	16
333	CC	680	N	6.87	DT517	Sycamore Valley Rd rm-n-diag	254	1	ac	16
334	CC	680	S	12.24	DT304	Rudgear Rd rm-s-diag	260	5	ac	16
335	CC	680	S	12.72	DT540	S Main St. rm-s-loop	273	10	ac	20
336	CC	680	N	14.10	DT543	Olympic Blvd: rm-n-diag	416	4	ac	12
337	CC	680	S	14.44	DT888	Mt Diablo off ramp	268	9	ac	14
338	CC	680	N	16.81	DT856	oak park rd / coggins dr: rm-n-loop	410	5	ac	10
339	CC	680	N	21.11	DT843	EB 4 on-n-loop	248	6	ac	18
340	CC	680	N	24.23	DT610	Waterfront rm-n-loop	319	4	ac	16
341	CC	680	S	24.26	DT178	Marina Vista rm-s-diag	285	7	ac	8